



# **STIC Search Report**

## **EIC 2600**

**STIC Database Tracking Number: 116849**

**TO: Brian Le**  
**Location: PK1 4B40**  
**Art Unit: 2623**  
**Monday, March 15, 2004**

**Case Serial Number: 09/703426**

**From: Pamela Reynolds**  
**Location: EIC 2600**  
**PK2-3C03**  
**Phone: 306-0255**

**Pamela.Reynolds@uspto.gov**

### **Search Notes**

Dear Brian Le,

Please find attached the search results for 09/703426. I used the search strategy I emailed to you to edit, which you did. I searched the standard Dialog files, and DTIC. I ordered items that looked good.

If you would like a re-focus please let me know.

Thank you.

Pamela Reynolds

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BRIAN QUANGLE Examiner #: 79178 Date: 03/15/04  
Art Unit: 2623 Phone Number 30 5-5083 Serial Number: 09/703 426  
Mail Box and Bldg/Room Location: 8K14B40 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Image Quality TesterInventors (please provide full names): Clarence E. Rush (see attachment)Earliest Priority Filing Date: 10/31/2000

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

- please see attachments for
  - direction of rush
  - drawing
  - claim
  - abstract.

see figure

\*\*\*\*\*  
STAFF USE ONLYSearcher: Pamela ReynoldsSearcher Phone #: 308-0251Searcher Location: PK23003Date Searcher Picked Up: 3-15-04 8:20Date Completed: 3-15-04Searcher Prep & Review Time: 88

Clerical Prep Time: \_\_\_\_\_

Online Time: 152

## Type of Search

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) \_\_\_\_\_

Structure (#) \_\_\_\_\_

Bibliographic ☒

Litigation \_\_\_\_\_

Fulltext \_\_\_\_\_

Patent Family \_\_\_\_\_

Other \_\_\_\_\_

## Vendors and cost where applicable

STN \_\_\_\_\_

Dialog ☒

Questel/Orbit \_\_\_\_\_

Dr. Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet ☒Other (specify) DMC

Search Instructions for case 09/703,426

**Note:** Please print all the potential/candidate references instead of just marking them.  
This would save a lot of time for the Examiner

**Key Concept:** image quality test\*/check\*/verify\*/ between the capture image versus the display image with the focus for the application of Helmet Mounted Display (HMD) for Apache Helicopter.

**Key words of this search (Examiner is open to more possible key words from the searcher):**

+ compute\*/determine\*/calculate\*/ near?? difference\*/change\*/offset/unlikeness/dissimilarity near?? input\*/capture\*/enter\*/ near?? display\*/output\*/recall\* image

+ display/output/show/ near?? test/analysis/study/experiment near?? pattern/trend/ near?? (vertical or horizontal) near?? line

+ (angular\* and center\* and focus and gray and boundary and focus) near?? difference\*/change\*/offset/dissimilar\*/ near?? input\*/capture\*/enter\*/ near?? display\*/output\*/recall\* image

+ **special military terms:** Forward Looking Infrared Radar (FLIR), Integrated Helmet and Display Sighting System (IHADSS); Helmet Mounted Display (HMD); Integrated Helmet Unit (IHU)

+ Narrow angle camera/wide angle camera

+ **Request the following references:**

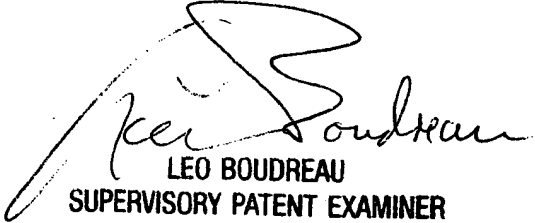
- Harding, T.H., Beasley, H.H., Martin, J.S. and Rash, C.E., 1995. Physical Evaluation of the Integrated Helmet and Display Sighting System Helmet Display Unit. Fort Rucker, AL: U.S. Army Aeromedical Research Laboratory. USAARL Report No. 95-32.


- Avionics Systems Group, Military Avionics Division. 1985. Integrated Helmet and Display Sighting System - Study Guide. St. Louis Park, MN: Honeywell, Inc.

- Hsieh, S., Rash, C.E., Harding, T.H., Beasley, H.H., and Marting, J.S. 1999. Preliminary Design of an Image Quality Tester for Helmet-Mounted Displays. Fort Rucker, AL: U.S. Army Aeromedical Research Laboratory. USAARL Report No. 2000-08.

ATT: My SPE hereby authorized the Examiner to request for 24 hrs. search.

Amelia Au

  
LEO BOUDREAU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

eyepiece  
CCD camera  
  
not necessarily  
mounted on  
helmet  
(computer control  
on plane)

2 images  
capture  
&  
display  
test  
horizontal  
vertical

File 344:Chinese Patents Abs Aug 1985-2004/Mar

(c) 2004 European Patent Office

File 347:JAPIO Nov 1976-2003/Nov(Updated 040308)

(c) 2004 JPO & JAPIO

File 348:EUROPEAN PATENTS 1978-2004/Mar W01

(c) 2004 European Patent Office

File 349:PCT FULLTEXT 1979-2002/UB=20040311,UT=20040304

(c) 2004 WIPO/Univentio

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200417

(c) 2004 Thomson Derwent

Set Items Description

S1 3732 AU=(RASH, C? OR HARDING, T? OR HSIEH, S? OR BEASLEY, H? OR  
MARTIN, J? OR REYNOLDS, R? OR DILLARD, R? OR RASH C? OR HARDI-  
NG T? OR HSIEH S? OR BEASLEY H? OR MARTIN J? OR REYNOLDS R? OR  
DILLARD R?)

S2 1 S1 AND IMAGE()TEST?

S3 0 S1 AND HEAD()MOUNT AND CAMERA?

2/5/1 (Item 1 from file: 348)  
DIALOG(R) File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

00233762

**DIFFRACTOSIGHT IMPROVEMENTS.**

**"DIFFRAKTOSIGHT"-VERFAHREN.**

**nERFECTIONNEMENTS APPORTES AU PROCEDE "DIFFRACTOSIGHT".**

**PATENT ASSIGNEE:**

DIFFRACTO LTD., (583561), 6360 Hawthorne Drive, Windsor Ontario N8T 3B7,  
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PRYOR, Timothy, R., 6360 Hawthorne Drive, Windsor, Ontario N8T 1J9, (CA)

**LEGAL REPRESENTATIVE:**

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PATENT (CC, No, Kind, Date): EP 216923 A1 870408 (Basic)  
EP 216923 A1 900606  
EP 216923 B1 930609  
WO 8605588 860925

APPLICATION (CC, No, Date): EP 86903720 860314; WO 86US519 860314

PRIORITY (CC, No, Date): US 711646 850314

DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE

INTERNATIONAL PATENT CLASS: G01N-021/55; G01N-021/89;

CITED PATENTS (EP A): GB 1461866 A; FR 2193975 A; WO 8503776 A

CITED REFERENCES (EP A):

See also references of WO8605588;

**NOTE:**

No A-document published by EPO

**LEGAL STATUS (Type, Pub Date, Kind, Text):**

Application: 870408 A1 Published application (A1with Search Report  
;A2without Search Report)

Examination: 870513 A1 Date of filing of request for examination:  
870314

Search Report: 900606 A1 Drawing up of a supplementary European search  
report: 900417

Examination: 911030 A1 Date of despatch of first examination report:  
910916

Grant: 930609 B1 Granted patent

Oppn None: 940601 B1 No opposition filed

**LANGUAGE (Publication,Procedural,Application):** English; English; English

**FULLTEXT AVAILABILITY:**

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	1780
CLAIMS B	(German)	EPBBF1	1902
CLAIMS B	(French)	EPBBF1	2020
SPEC B	(English)	EPBBF1	15071
Total word count - document A			0
Total word count - document B			20773
Total word count - documents A + B			20773

?

File 348:EUROPEAN PATENTS 1978-2004/Mar W01

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File 349:PCT FULLTEXT 1979-2002/UB=20040311,UT=20040304

(c) 2004 WIPO/Univentio

Set	Items	Description
S1	2784	(HAT OR HEAD OR HELMET) (3N) MOUNT? (3N) (CAMERA? OR LENS) OR - HMDS OR HMD
S2	12	INTEGRAT? (3N) HELMET (3N) DISPLAY (3N) SIGHT? (3N) SYSTEM? OR IHA- DSS OR INTEGRAT? (3N) HELMET (3N) UNIT
S3	437191	IMAGE??
S4	783775	DISPLAY? OR OUTPUT OR SHOW
S5	29835	(INPUT OR CAPTUR? OR ENTER? OR RECALL?) (3N) S3
S6	29950	(TESTS OR TESTING OR TESTED OR TESTED OR EVALUAT? OR ASSES? OR DETERMIN? OR CALCULAT? OR COMPUT???? OR DETECT? OR COMPAR? OR ANAL???? OR STUDY OR EXPERIMENT?) (7N) S3 (5N) S4
S7	2256	(DIFFERENCE? OR CHANG? OR OFFSET OR DISSIMILARITY OR UNLIK- E? OR DIFFERENT) (3N) S6
S8	288104	PATTERN? OR TREND() FORMATION
S9	299379	BRIGHTNESS OR LUMIN? OR CONTRAST?
S10	823432	ANGULAR? OR CENTER? OR FOCUS? OR HORIZONT? OR VERTICAL? OR GRAY OR GREY OR BOUNDAR? OR FIELD(2N) VIEW OR BITMAP
S11	77643	CAMERA?? OR CCD OR CCD(3N) CAMERA?
S12	1051	FLIR OR FORWARD() LOOK?() (IR OR INFRARED) (3N) RADAR?
S13	23158	IC=G06K?
S14	4	(S1 OR S2) (S) S7
S15	4	IDPAT (sorted in duplicate/non-duplicate order)
S16	4	IDPAT (primary/non-duplicate records only)
S17	20	S7(S) S8(S) S9(S) S10
S18	1	S17 AND S13
S19	0	S18 NOT S16
S20	18	S17 NOT S14
S21	0	S20(S) S12
S22	2	S20(S) S11
S23	140	(S1 OR S2) (5N) (S8 OR S9 OR S10)
S24	7	S23(7N) (COMPAR? OR EVALUAT? OR DETERMIN? OR TEST)
S25	6	S24 NOT (S17 OR S14)
S26	6	IDPAT (sorted in duplicate/non-duplicate order)
S27	6	IDPAT (primary/non-duplicate records only)

16/3,K/1 (Item 1 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
(c) 2004 WIPO/Univentio. All rts. reserv.

01066495 \*\*Image available\*\*

**METHOD AND APPARATUS FOR BROWSING USING MULTIPLE COORDINATED DEVICE  
PROCEDE ET DISPOSITIF D'EXPLORATION AU MOYEN DE PLUSIEURS DISPOSITIFS  
COORDONNES**

Patent Applicant/Inventor:

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Legal Representative:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200396669 A2 20031120 (WO 0396669)

Application: WO 2003US14449 20030508 (PCT/WO US0314449)

Priority Application: US 2002379635 20020510; US 2002408605 20020906; US  
2003455433 20030317

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT  
RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW  
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE  
SI SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 116200

Fulltext Availability:

Detailed Description

Detailed Description

16/3,K/2 (Item 2 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
(c) 2004 WIPO/Univentio. All rts. reserv.

00909145 \*\*Image available\*\*

**PLANAR LASER ILLUMINATION AND IMAGING (PLIIM) SYSTEMS WITH INTEGRATED  
DESPECKLING MECHANISMS PROVIDED THEREIN  
SYSTEMES PLIIM D'ILLUMINATION ET D'IMAGERIE AU LASER PLANAIRE A MECANISME  
DE DECHATOIEMENT INTEGRE**

Patent Applicant/Assignee:

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 US (Residence), US (Nationality), (Designated only for: US)  
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 KIM Steve Y, 129 Franklin Street, #113, Cambridge, MA 02139, US, US  
 (Residence), US (Nationality), (Designated only for: US)  
 FISCHER Dale, 204 Sunshire Lakes Drive, Voorhees, NJ 08043, US, US  
 (Residence), US (Nationality), (Designated only for: US)  
 VAN Tassel John E Jr, 8 Arbor Lane, Winchester, MA 01890, US, US  
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PERKOWSKI Thomas J (et al) (agent), Thomas J. Perkowski, Esq., P.C.,  
 Soundview Plaza, 1266 East Main Street, Stamford, CT 06902, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200243195 A2-A3 20020530 (WO 0243195)  
 Application: WO 2001US44011 20011121 (PCT/WO US0144011)  
 Priority Application: US 2000721885 20001124; US 2001780027 20010209; US  
 2001781665 20010212; US 2001883130 20010615; US 2001954477 20010917; US  
 2001999687 20011031

Parent Application/Grant:

Related by Continuation to: US 2001954477 20010917 (CIP)

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
 CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
 KR KZ LC LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD  
 SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW



(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 298301

Fulltext Availability:

Claims

Claim

... taken along a viewing direction which is parallel to the central axis of the cylindrical **lens** element **mounted** to the VLD **mounting** block; Fig. 1G13 is an elevated side view of the collimating **lens** element installed within each VLD **mounting** block employed in the PLUM-based system of Fig. 1G1; Fig. 1G14 is an axial...photo-integration time period thereof. Notably, one can expect an increase the number of substantially **different** speckle-noise patterns produced during the photointegration time period of the image detection array by...in speckle-noise pattern power in the system of Fig. 1I9A, the number of substantially **different** time-varying speckle-noise pattern samples which need to be generated per each photo-integration time interval of the **image detection** array can be **experimentally determined** without undue **experimentation**. However, for a particular degree of speckle-noise power reduction, it is expected that the...

16/3,K/3 (Item 3 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00788659 \*\*Image available\*\*

**METHOD AND SYSTEM FOR TIME/MOTION COMPENSATION FOR HEAD MOUNTED DISPLAYS**  
**PROCEDE ET SYSTEME DE CORRECTION DE TEMPS/MOUVEMENT POUR DES AFFICHAGES**  
**MONTES SUR LA TETE**

Patent Applicant/Assignee:

CANADIAN SPACE AGENCY, 6767 route de l'Aeroport, Saint-Hubert, Quebec J3Y 8Y9, CA, CA (Residence), CA (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

EDWARDS Eric C, 459 Elm Ave., Westmount, Quebec H3Y 3H9, CA, CA (Residence), CA (Nationality), (Designated only for: US)

Legal Representative:

FREEDMAN Gordon (agent), Freedman & Associates, 117 Centrepointe Drive, Suite 350, Nepean, Ontario K2G 5X3, CA,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200122149 A1 20010329 (WO 0122149)

Application: WO 2000CA1063 20000922 (PCT/WO CA0001063)

Priority Application: US 99155132 19990922

Designated States: CA GB JP US

Publication Language: English

Filing Language: English

Fulltext Word Count: 6336

Fulltext Availability:

Detailed Description

Detailed Description

... view, the entire field of view is filled with the predetermined fill.

For example, the **image** is adjusted by the following steps: **determining** an **offset** between the **head mounted display** position and the **camera** position; and, offsetting the **image** such that it is offset an amount equal to the offset between the **head mounted display** position and the **camera** position.

Advantageously, such a system is not limited by the accuracy of a predictive process...

16/3,K/4 (Item 4 from file: 349)  
DIALOG(R) File 349:PCT FULLTEXT  
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00355284

**COLLISION WARNING SYSTEM FOR A HEAD MOUNTED DISPLAY**  
**SYSTEME D'AVERTISSEMENT DE COLLISION POUR DISPOSITIF DE VISUALISATION PORTE**  
**SUR LA TETE**

Patent Applicant/Assignee:  
PHILIPS ELECTRONICS N V,  
PHILIPS NORDEN AB,

Inventor(s):  
GALLERY Richard David,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9637798 A1 19961128

Application: WO 96IB352 19960418 (PCT/WO IB9600352)

Priority Application: GB 9510614 19950525

Designated States: JP AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 3413

English Abstract

A collision warning system is disclosed for a head mounted display ( **HMD** ) (10) worn by a user, for example as the interface to a virtual reality system...

...objects in the physical environment. A motion detector (30, 32) detects positional changes of the **HMD** , which changes are reflected in **changes** of a **displayed image** viewpoint, and a **comparator** stage (38, 40) **determines** whether the movement takes the user into a "prohibited" area. If so, a visual and/or audible warning is provided to the user via the **HMD** (10). In an embodiment, the display screens (18) of the **HMD** include liquid crystal display shutters (20) which are switched to a transparent state in the...

...the danger but also able to see it without having to remove or adjust the **HMD** .

?

22/3,K/1 (Item 1 from file: 348)  
DIALOG(R) File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

00294390

Phase difference detecting apparatus.

Phasendifferenzdetektor.

Appareil pour la detection d'une difference de phase.

PATENT ASSIGNEE:

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Kanagawa-ken, (JP), (applicant designated states: DE;FR;GB)

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LEGAL REPRESENTATIVE:

Patentanwalte Grunecker, Kinkeldey, Stockmair & Partner (100721),  
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PATENT (CC, No, Kind, Date): EP 298486 A2 890111 (Basic)

EP 298486 A3 890614

EP 298486 B1 931006

APPLICATION (CC, No, Date): EP 88110890 880707;

PRIORITY (CC, No, Date): JP 87167906 870707

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G03B-003/10;

ABSTRACT WORD COUNT: 280

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	421
CLAIMS B	(German)	EPBBF1	412
CLAIMS B	(French)	EPBBF1	570
SPEC B	(English)	EPBBF1	4470
Total word count - document A			0
Total word count - document B			5873
Total word count - documents A + B			5873

...SPECIFICATION analog signal processing.

Then, the phase difference can be detected on the basis of a **pattern** of distribution of these correlative values. For example, the diagrams (a) - (c) of Fig. 8 show the **patterns** of the correlative values in the case where the apparatus is applied to an automatic focal-point detecting device in a **camera**. Assuming that the state in **focus** is obtained in the case of the diagram (a) of Fig. 8 in which the...

...of relative movement (liters) = 4, it is possible to judge the state to be "ahead **focus**" when the maximum correlative value is obtained at the quantity of relative movement smaller ((liters)=2) than the above case, and to be "behind **focus**" when the maximum correlative value is obtained at the quantity of relative movement larger ((liters)=6) than the above case.

In the phase difference detecting apparatus in which a relative distance between a pair of focused images obtained from subject luminous flux passed through a taking lens is detected to thereby

judge the state of focus of the taking lens, according to the present

22/3,K/2 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00984065 \*\*Image available\*\*

**A PRINTING CARTRIDGE WITH PRESSURE SENSOR ARRAY IDENTIFICATION**

**CARTOUCHE D'IMPRESSION AVEC IDENTIFICATION D'UNE MATRICE DE CAPTEURS DE  
PRESSION**

Patent Applicant/Assignee:

SILVERBROOK RESEARCH PTY LTD, 393 Darling Street, Balmain, New South  
Wales 2041, AU, AU (Residence), AU (Nationality), (For all designated  
states except: US)

Patent Applicant/Inventor:

SILVERBROOK KIA, Silverbrook Research Pty Ltd, 393 Darling Street,  
Balmain, New South Wales 2041, AU, AU (Residence), AU (Nationality),  
(Designated only for: US)

Legal Representative:

SILVERBROOK KIA (agent), Silverbrook Research Pty Ltd, 393 Darling  
Street, Balmain, New South Wales 2041, AU,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200313861 A1 20030220 (WO 0313861)

Application: WO 2002AU1054 20020806 (PCT/WO AU0201054)

Priority Application: US 2001922207 20010806

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP

KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO

RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 142580

Fulltext Availability:

Detailed Description

Detailed Description

... information in a printing roll authentication chip 53.

23. Reading and storing information in a **camera** authentication chip  
54.

24. Communicating with an optional mini-keyboard 57 for text  
modification.  
Quartz...

...through its lens into an electrical signal. It can either be a charge  
coupled device ( **CCD** ) or an active pixel sensor (APS)CMOS image sector.  
At present, available **CCD** 's normally have a higher image quality,  
however, there is currently much development occurring in CMOS imagers.  
CMOS imagers are eventually expected to be substantially cheaper than  
**CCD** 's have smaller pixel areas, and be able to incorporate drive  
circuitry and signal processing. They can also be made in CMOS fabs,  
which are transitioning to 12" wafers. **CCD** 's are usually built in 6"  
wafer fabs, and economics may not allow a conversion to 12" fabs.

Therefore, the difference in fabrication cost between CCD 's and CMOS imagers is likely to increase, progressively 3 0 favoring CMOS imagers. However, at present, a CCD is probably the best option.

27/3,K/1 (Item 1 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

01206504

**HEAD TRACKER SYSTEM**

**SYSTEM ZUR VERFOLGUNG VON KOPFBEWEGUNGEN**

**SYSTEME DE DETERMINATION DE POSITION DE TETE**

PATENT ASSIGNEE:

BAE SYSTEMS Electronics Ltd., (205079), Warwick House, P.O. Box 87,  
Farnborough Aerospace Centre, Farnborough, Hampshire GU14 6YU, (GB),  
(Proprietor designated states: all)

INVENTOR:

BARTLETT, Christopher Travers, 83 Abingdon Road, Barming, Maidstone, Kent  
ME16 9EH, (GB)

LEGAL REPRESENTATIVE:

Rooney, Paul Blaise et al (35444), BAE Systems plc, Group IP Department,  
Lancaster House, P.O. Box 87, Farnborough Aerospace Centre,  
Farnborough, Hampshire GU14 6YU, (GB)

PATENT (CC, No, Kind, Date): EP 1157326 A1 011128 (Basic)  
EP 1157326 B1 021002  
WO 2000052563 000908

APPLICATION (CC, No, Date): EP 2000906524 000301; WO 2000GB729 000301

PRIORITY (CC, No, Date): GB 9904669 990301; GB 9917582 990728

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE

INTERNATIONAL PATENT CLASS: G06F-003/00; G06K-011/08; G09B-009/30;  
G02B-027/01

NOTE:

No A-document published by EPO

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200240	604
CLAIMS B	(German)	200240	561
CLAIMS B	(French)	200240	606
SPEC B	(English)	200240	4017
Total word count - document A			0
Total word count - document B			5788
Total word count - documents A + B			5788

...SPECIFICATION to not only detect for the presence of the or each  
marking, but also to **determine** where it is within the **field of view**  
of the **camera** in order to accurately **determine** the **head mounting**  
orientation. In order to recognise markings when they are off axis the  
processor is operable...

27/3,K/2 (Item 2 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

00487023

**Mounting apparatus for electronic parts**

**Anordnung zur Montierung elektronischer Bauteile**

**Dispositif de montage d'elements electroniques**

PATENT ASSIGNEE:

SONY CORPORATION, (214022), 7-35, Kitashinagawa 6-chome Shinagawa-ku,  
Tokyo, (JP), (applicant designated states: DE;FR;GB)

INVENTOR:

Satoru, Tanaka, c/o Sony Corporation 7-35 Kitashinagawa 6-chome,  
Shinagawa-ku Tokyo, (JP)  
Kazuhide, Tago, c/o Sony Corporation 7-35 Kitashinagawa 6-chome,  
Shinagawa-ku Tokyo, (JP)

LEGAL REPRESENTATIVE:

Nicholls, Michael John et al (61941), J.A. KEMP & CO. 14, South Square  
Gray's Inn, London WC1R 5LX, (GB)

PATENT (CC, No, Kind, Date): EP 476851 A2 920325 (Basic)  
EP 476851 A3 920708  
EP 476851 B1 970806

APPLICATION (CC, No, Date): EP 91307760 910822;

PRIORITY (CC, No, Date): JP 90220840 900822; JP 90314864 901120

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H05K-013/04;

ABSTRACT WORD COUNT: 180

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9708W1	417
CLAIMS B	(German)	9708W1	427
CLAIMS B	(French)	9708W1	472
SPEC B	(English)	9708W1	3626
Total word count - document A			0
Total word count - document B			4942
Total word count - documents A + B			4942

...ABSTRACT which is simplified in construction and reduced in cost of an  
equipment and requires a **comparatively** small spacing. The amounting  
apparatus comprises a **mounting head**, an attracting nozzle **mounted**  
for **vertical** movement, an image pickup **camera** mounted in parallel to  
the attracting nozzle, and a mirror unit mounted for horizontal movement  
...

27/3,K/3 (Item 3 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00404437

Direct incorporation of night vision in a helmet mounted display.

Am Helm befestigte Nachtsichtanzeige.

Système de vision nocturne incorpore dans un casque a ecran visuel.

PATENT ASSIGNEE:

UNITED TECHNOLOGIES CORPORATION, (206570), United Technologies Building  
1, Financial Plaza, Hartford, CT 06101, (US), (applicant designated  
states: DE;FR;GB;IT;NL;SE)

INVENTOR:

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06033, (US)

McKinley, Harry R., 58 Rattle Hill, Southampton, Connecticut 01073, (US)

Smith, Stephen J., 32 Long View Drive, Simsbury, Connecticut 06070, (US)

McLean, William E., 1003 Warwick Drive, Apt. 1B, Aberdeen, Maryland 21001  
, (US)

LEGAL REPRESENTATIVE:

Waxweiler, Jean (19251), OFFICE DENNEMEYER S.a.r.l. P.O. Box 1502, L-1015  
Luxembourg, (LU)

PATENT (CC, No, Kind, Date): EP 384880 A2 900829 (Basic)  
EP 384880 A3 910717

APPLICATION (CC, No, Date): EP 90630046 900220;

PRIORITY (CC, No, Date): US 313686 890221

DESIGNATED STATES: DE; FR; GB; IT; NL; SE  
INTERNATIONAL PATENT CLASS: G02B-027/00; G02B-013/16; G02B-017/08;  
ABSTRACT WORD COUNT: 63

LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	2788
SPEC A	(English)	EPABF1	4712
Total word count - document A			7500
Total word count - document B			0
Total word count - documents A + B			7500

...SPECIFICATION which the pilot is flying, different requirements are placed on the optical design of the **HMD** . For the relatively high **brightness** daytime light (as **compared** to nighttime light), the combiner must have high transparency (see-through) since the pilot views  
...

27/3,K/4 (Item 4 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

00404436

**A helmet mounted display having dual interchangeable optical eyepieces.**

**Helmsichtanzeige mit zwei austauschbaren Okularen.**

**Ecran visuel monte sur un casque avec deux oculaires interchangeables.**

PATENT ASSIGNEE:

UNITED TECHNOLOGIES CORPORATION, (206570), United Technologies Building  
1, Financial Plaza, Hartford, CT 06101, (US), (applicant designated  
states: DE;FR;GB;IT;NL;SE)

INVENTOR:

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McKinley, Harry R., 58 Rattle Hill Road, Southampton, Massachusetts 01073  
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LEGAL REPRESENTATIVE:

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L-1015 Luxembourg, (LU)

PATENT (CC, No, Kind, Date): EP 389403 A2 900926 (Basic)  
EP 389403 A3 910717

APPLICATION (CC, No, Date): EP 90630045 900220;

PRIORITY (CC, No, Date): US 313685 890221

DESIGNATED STATES: DE; FR; GB; IT; NL; SE

INTERNATIONAL PATENT CLASS: G02B-027/00; A42B-003/04;

ABSTRACT WORD COUNT: 62

LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1921
SPEC A	(English)	EPABF1	4164
Total word count - document A			6085
Total word count - document B			0
Total word count - documents A + B			6085



...SPECIFICATION which the pilot is flying, different requirements are placed on the optical design of the HMD . For the relatively high **brightness** daytime light (as **compared** to nighttime light), the combiner must have high transparency (see-through) since the pilot views ...

27/3,K/5 (Item 5 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
(c) 2004 WIPO/Univentio. All rts. reserv.

00739199 \*\*Image available\*\*

**HEAD TRACKER SYSTEM**

**SYSTEME DE DETERMINATION DE POSITION DE TETE**

Patent Applicant/Assignee:

BAE SYSTEMS ELECTRONICS LIMITED, The Grove, Warren Lane, Stanmore,  
Middlesex HA7 4LY, GB, GB (Residence), GB (Nationality), (For all  
designated states except: US)

Patent Applicant/Inventor:

BARTLETT Christopher Travers, 83 Abingdon Road, Barming, Maidstone, Kent  
ME16 9EH, GB, GB (Residence), GB (Nationality), (Designated only for:  
US)

Legal Representative:

BAE SYSTEMS PLC, Group IP Dept., Lancaster House, P.O. Box 87,  
Farnborough Aerospace Centre, Farnborough, Hampshire GU14 6YU, GB

Patent and Priority Information (Country, Number, Date):

Patent: WO 200052563 A1 20000908 (WO 0052563)

Application: WO 2000GB729 20000301 (PCT/WO GB0000729)

Priority Application: GB 994669 19990301; GB 9917582 19990728

Designated States: CA IL US ZA

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Filing Language: English

Fulltext Word Count: 5908

Fulltext Availability:

Detailed Description

Detailed Description

... to not only detect for the presence of the or each marking, but also to **determine** where it is within the **field** of **view** of the **camera** in order to accurately **determine** the **head mounting** orientation. In order to recognise markings when they are off axis the processor is operable...

27/3,K/6 (Item 6 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00370644 \*\*Image available\*\*

**METHOD AND APPARATUS FOR DETERMINING POSITION AND ORIENTATION**

**PROCEDE ET APPAREIL MESURANT UNE POSITION ET UNE ORIENTATION**

Patent Applicant/Assignee:

OMNIPLANAR INC,

Inventor(s):

BATTERMAN Eric P,  
CHANDLER Donald G,  
DUNPHY Robert H,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9711386 A1 19970327  
Application: WO 96US15072 19960919 (PCT/WO US9615072)  
Priority Application: US 954094 19950921  
Designated States: CA JP AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
Publication Language: English  
Fulltext Word Count: 9494

Fulltext Availability:  
Detailed Description

Detailed Description

... attached. The position and angles (degrees of freedom) of the handle 950 relative to the **head mount** display 910 are **determined** by **camera** 940 sensing the optically modulated **pattern** 960 and processing the video signal.

The position and angles of the handle 950 may...  
?

File 2:INSPEC 1969-2004/Mar W1  
(c) 2004 .Institution of Electrical Engineers  
File 6:NTIS 1964-2004/Mar W1  
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File 8:Ei Compendex(R) 1970-2004/Mar W1  
(c) 2004 Elsevier Eng. Info. Inc.  
File 34:SciSearch(R) Cited Ref Sci 1990-2004/Mar W1  
(c) 2004 Inst for Sci Info  
File 35:Dissertation Abs Online 1861-2004/Feb  
(c) 2004 ProQuest Info&Learning  
File 65:Inside Conferences 1993-2004/Mar W2  
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File 94:JICST-EPlus 1985-2004/Mar W1  
(c)2004 Japan Science and Tech Corp(JST)  
File 95:TEME-Technology & Management 1989-2004/Feb W4  
(c) 2004 FIZ TECHNIK  
File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Feb  
(c) 2004 The HW Wilson Co.  
File 144:Pascal 1973-2004/Mar W1  
(c) 2004 INIST/CNRS  
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
(c) 1998 Inst for Sci Info  
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13  
(c) 2002 The Gale Group  
File 603:Newspaper Abstracts 1984-1988  
(c)2001 ProQuest Info&Learning  
File 483:Newspaper Abs Daily 1986-2004/Mar 12  
(c) 2004 ProQuest Info&Learning  
File 248:PIRA 1975-2004/Feb W5  
(c) 2004 Pira International

Set	Items	Description
S1	4614	(HAT OR HEAD OR HELMET) (3N) MOUNT? (3N) (CAMERA? OR LENS) OR - HMDS OR HMD
S2	96	INTEGRAT? (3N) HELMET (3N) DISPLAY (3N) SIGHT? (3N) SYSTEM? OR IHA- DSS OR INTEGRAT? (3N) HELMET (3N) UNIT
S3	2002419	IMAGE??
S4	4473363	DISPLAY? OR OUTPUT OR SHOW
S5	116562	(INPUT OR CAPTUR? OR ENTER? OR RECALL?) AND S3
S6	232544	(TESTS OR TESTING OR TESTED OR TESTED OR EVALUAT? OR ASSES? OR DETERMIN? OR CALCULAT? OR COMPUT???? OR DETECT? OR COMPAR? OR ANAL? OR STUDY OR EXPERIMENT?) AND S3 AND S4
S7	68667	(DIFFERENCE? OR CHANG? OR OFFSET OR DISSIMILARITY OR UNLIK- E? OR DIFFERENT) AND S6
S8	2004472	PATTERN? OR TREND() FORMATION
S9	1616444	BRIGHTNESS OR LUMIN? OR CONTRAST?
S10	4907031	ANGULAR? OR CENTER? OR FOCUS? OR HORIZONT? OR VERTICAL? OR GRAY OR GREY OR BOUNDAR? OR FIELD(2N) VIEW OR BITMAP
S11	332391	CAMERA?? OR CCD OR CCD(3N) CAMERA?
S12	2707	FLIR OR FORWARD() LOOK? () (IR OR INFRARED) (3N) RADAR?
S13	39458	AU=(RASH, C? OR HARDING, T? OR HSIEH, S? OR BEASLEY, H? OR MARTIN, J? OR REYNOLDS, R? OR DILLARD, R? OR RASH C? OR HARDI- NG T? OR HSIEH S? OR BEASLEY H? OR MARTIN J? OR REYNOLDS R? OR DILLARD R?)
S14	1012	(S1 OR S2) AND S6
S15	3	S14 AND S8 AND S9 AND S10
S16	3	RD S15 (unique items)
S17	545	S11 AND S8 AND S9 AND S10
S18	55	S17 AND S7
S19	52	S18 NOT S15
S20	20	S19 AND PY=2001:2004

S21	32	S19 NOT S20
S22	29	RD S21 (unique items)
S23	56	S13 AND S14
S24	55	S23 NOT (S18 OR S15)
S25	0	S24 AND S8 AND S9 AND S10
S26	30	S24 AND (S8 OR S9 OR S10)
S27	21	S26 AND PY=2001:2004
S28	9	S26 NOT S27
S29	9	RD S28 (unique items)

16/3,K/1 (Item 1 from file: 6)

DIALOG(R)File 6:NTIS

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1623965 NTIS Accession Number: N92-12421/3

**Helmet Mounted Sight and Display Testing**

Vonboehm, H. ; Schreyer, H. ; Schraner, R.

Messerschmitt-Boelkow-Blohm G.m.b.H., Munich (Germany, F.R.).

Corp. Source Codes: 064776000; MT618891

Sponsor: National Aeronautics and Space Administration, Washington, DC.

Report No.: MBB-UD-0594-91-PUB; ETN-91-90196

26 Feb 91 3lp

Languages: English

Journal Announcement: GRAI9206; STAR3003

Presented at the Spie Conference 1456 Hmd III, San Jose, Ca, 26-28 Feb. 1991.

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NTIS Prices: PC A03/MF A01

**Helmet Mounted Sight and Display Testing**

The results of conducted **tests** of Helmet Mounted Sights (HMS) and Helmet Mounted **Displays** ( **HMD** ) are presented. To **compare** the accuracy of the different HMS Systems (on magnetic, acoustic or optical basis) it is ...

... test conditions vary, dependent on the principle of the HMS system. Magnetic systems should be **tested** with the influence of magnetic disturbances, ultrasonic systems under occurrence of noise and changing characteristics of the dispersion medium air, optical systems under high **luminance** to check saturation effects of the sensors. Modern Integrated Helmets (IH) consist of Cathode Ray Tubes (CRTs) for **displaying** binocular **images** of television or infrared cameras and superimposed symbology and a second channel with **Image** Intensifier Tubes (IIT). Important points for checking CRTs are the resolution, distortion, homogeneity and **brightness** in day and night time. The most important test for the IIT channel is the resolution measured as a function of **luminance** of the test **pattern** . **Tests** of the basic helmet regarding head fit, earphone, **center** of gravity, weight etc. are also necessary because these properties have an influence on the...

Descriptors: **Display** devices; \*Helmets; \*Man machine systems; \*Performance **tests** ; \*Systems integration; \*Visual perception; Cathode ray tubes; Electroacoustics; Electromagnetism; Human factors engineering; **Image** intensifiers; Optical measuring instruments

16/3,K/2 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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06633364 E.I. No: EIP03487759467

**Title: Proof of Principle for Helmet-Mounted Display Image Quality Tester**

Author: Hsieh, Sheng-Jen; Harding, Thomas H.; Rash, Clarence E.; Beasley, Howard H.; Martin, John S.

Corporate Source: Texas A and M University, College Station, TX, United States

Conference Title: Helmet- and Head-Mounted Displays VII: Technologies and

Applications

Conference Location: Orlando, FL, United States Conference Date: 20030421-20030423

E.I. Conference No.: 61926

Source: Proceedings of SPIE - The International Society for Optical Engineering v 5079 2003. p 63-74

Publication Year: 2003

CODEN: PSISDG ISSN: 0277-786X

Language: English

**Title: Proof of Principle for Helmet-Mounted Display Image Quality Tester**

**Abstract:** Helmet-mounted **displays** ( **HMDs** ) provide essential pilotage and fire control **imagery** information for pilots. To maintain system integrity and readiness, there is a need to develop an **image** quality-**testing** tool for **HMDs** . There is currently no such tool. A framework for development of an **image** quality tester for the **Integrated Helmet and Display Sighting System** ( **IHADSS** ) used in the U.S. Army's AH-64 was proposed in Hsieh et al.. This paper presents the prototype development, summarizes the bench test findings using three **IHADSS** helmet display units (HDUs) and concludes with recommendations for future directions. The prototype tester consisted of hardware (two cameras, position sensors, **image** capture/data acquisition cards, battery pack, HDU holder, moveable rack and handle, and **computer** ) and software algorithms for **image** capture and **analysis** . Two cameras with different apertures were mounted in parallel on a rack facing the HDU...

...designed to allow users to position the HDU in front of the two cameras. The **HMD** test **pattern** was then captured. Sensors were used to **detect** the position of the holder and whether the HDU was angled correctly in relation to the camera. Two sets of unified algorithms were designed to **detect** **image** features presented by the two cameras. These features included **focus** , orientation, displacement, **field-of-view** (FOV), and number of **gray** -shades. **Images** of test **patterns** were captured, **analyzed** and used to develop a specification for each inspection feature.

**Experiments** were conducted to verify the robustness of the algorithms. Worst-case scenarios for factors such as clockwise and counterclockwise tilt, degree of **focus** , magnitude of **brightness** and **contrast** , and shifted **images** were created and **evaluated** . Bench **testing** of three field-quality HDUs indicated that the **image** **analysis** algorithms are robust and able to **detect** the desired **image** features. Suggested future work includes development of a learning algorithm to automatically develop or revise...

Descriptors: Helmet mounted **displays** ; **Image** quality; Imaging systems; Optical **testing** ; Military applications; Data acquisition; **Image** sensors ; **Image** **analysis** ; Robustness (control systems); Algorithms

Identifiers: **Integrated helmet and display sighting systems** ( **IHADSS** )

16/3,K/3 (Item 2 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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03367640 E.I. Monthly No: EIM9201-002640

**Title: Helmet-mounted sight and display testing .**

Author: Boehm, Hans-Dieter V.; Schreyer, H.; Schraner, R.

Corporate Source: Messerschmitt-Boelkow-Blohm GmbH, Muenchen 80, Federal Republic of Germany

Conference Title: Large-Screen-Projection, Avionic, and Helmet-Mounted

Displays

Conference Location: San Jose, CA, USA    Conference Date: 19910226

E.I. Conference No.: 15292

Source: Proceedings of SPIE - The International Society for Optical Engineering v 1456. Publ by Int Soc for Optical Engineering, Bellingham, WA, USA. p 95-123

Publication Year: 1991

CODEN: PSISDG    ISSN: 0277-786X    ISBN: 0-8194-0555-8

Language: English

**Title:** Helmet-mounted sight and display testing .

**Abstract:** The results of **tests** conducted with helmet-mounted sights (HMS) and helmet-mounted **displays** ( **HMD** ) are presented. To **compare** the accuracy of the different HMS systems (on a magnetic, acoustic, or optical basis) the...

...test conditions vary, depending on the principle of the HMS system. Magnetic systems should be **tested** with the influence of magnetic disturbances, ultrasonic systems with the occurrence of noise and changing characteristics of the dispersion medium, and optical systems under high **luminance** to check saturation effects of the sensors. Modern integrated helmets (IH) consist of CRTs for **displaying** binocular **images** of TV - or infrared - cameras and superimposed symbology and a second channel with **image** intensifier tubes (IIT). Important points for checking CRTs are the resolution, distortion, homogeneity, and **brightness** in day and night. The most important test for the IIT channel is the resolution measured as a function of **luminance** of the test **pattern** . **Tests** of the basic helmet regarding head fit, earphone, **center** of gravity, weight, etc., are also necessary because these properties have an influence on the...

...Descriptors: Sensory Aids; HELICOPTERS; **DISPLAY** DEVICES...

Identifiers: HELMET MOUNTED. **DISPLAYS** ; HEAD TRACKERS; HELICOPTER VISION SYSTEMS  
?

22/3,K/1 (Item 1 from file: 2).

DIALOG(R) File 2:INSPEC

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4876104 INSPEC Abstract Number: A9505-8760J-030, B9503-7510B-061

**Title:** An assessment of the variations in image quality with multiformat cameras

Author(s): Marsh, D.M.; Gooney, P.; Malone, J.F.

Author Affiliation: Dept. of Med. Phys. & Bioeng., St. James's Hospital, Dublin, Ireland

Journal: Radiation Protection Dosimetry vol.57, no.1-4 p.277-80

Publication Date: 1995 Country of Publication: UK

CODEN: RPDODE ISSN: 0144-8420

Conference Title: Data Analysis in Quality Control and Radiation Protection of the Patient in Diagnostic Radiology and Nuclear Medicine

Conference Date: 29 Sept.-1 Oct. 1993 Conference Location: Grado, Italy

Language: English

Subfile: A B

Copyright 1995, IEE

**Title:** An assessment of the variations in image quality with multiformat cameras

...Abstract: many other technology digital imaging methods, the final copy is often produced on a multiformat camera. The problems in imaging performance that arise in multiformat cameras are primarily due to dust, dirt and other forms of soiling on the optical components, and to a drift in electronic components associated with the multiformat camera characteristics. This drift can be due to temperature variations and/or deterioration in component performance over time within the format camera monitor. These problems, coupled with the fact that the system display monitor characteristics or video grey scale inversion may not be compensated for by the format camera, can lead to fluctuations in hard copy density and can in turn lead to differences in brightness, contrast and signal-to-noise ratio in the resulting image. This study examines the hard copy and system display monitor fluctuations using a video test pattern generator, a photodensitometer for film densities, and a photometer to measure light output from the display monitor. The hard copy fluctuations are measured for several grey-scale levels, and compared for four different film types. In this study the performance of multiformat cameras are compared; variations in performance have been noted and may be attributed to camera age, choice of film, processing and possibly film throughput. The conclusions of this study are relevant to quality control and quality assurance procedures, and to multiformat camera operation and usage.

...Descriptors: brightness ; ...

...television cameras

Identifiers: image quality...

...light output ; ...

...multiformat camera characteristics...

...system display monitor characteristics...

...video grey scale inversion...

... brightness ; ...



... contrast ; ...

...video test pattern generator

22/3,K/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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03193910 INSPEC Abstract Number: A88106725

**Title: Contrast in diaphanography of the breast**

Author(s): Navarro, G.A.; Profio, A.E.

Author Affiliation: Dept. of Chem. & Nucl. Eng., California Univ., Santa Barbara, CA, USA

Journal: Medical Physics vol.15, no.2 p.181-7

Publication Date: March-April 1988 Country of Publication: USA

CODEN: MPHYA6 ISSN: 0094-2405

U.S. Copyright Clearance Center Code: 0094-2405/88/020181-07\$01.20

Language: English

Subfile: A

**Title: Contrast in diaphanography of the breast**

...Abstract: breast disease including cancer. The breast is illuminated with low intensity light and the transmission **pattern** of red and near-infrared radiation is **detected**, amplified, reconstructed and **displayed** in a monitor. The instrumentation for diaphanography has evolved empirically, mostly through clinical practice, without...

... basis of the technique. This research is concerned with investigating theoretically the dependence of the **contrast** produced by a lesion in diaphanography **image** on the size, depth at which a tumor is located, photon energy, and photon **angular** flux distribution. **Contrast calculations** using the DOT **computer** code in a two-dimensional geometry showed that decreasing the size of a tumor by 50% decreases the **contrast** by a factor of 3 and 4 for 695- and 853-nm photons, respectively. Decreasing...

...tissue where a tumor is imbedded by 25% (from 4 to 3 cm) does not **change** the **contrast** very much (less than 20%) for both 695- and 853-nm photons. The **contrast** for 950- and 695-nm photons is **comparable** while the values for 853-nm photons are smaller by a factor of 5 for similar cases. The **contrast** was also found to be dependent on the angle at which the diffuse light is **detected** after it transverse the host tissue, maximum **contrast** was found for 695- and 853-nm photons at about 55 degrees. For a **detection** angle of 77 degrees the **contrast** observed is 3\* and 12\* smaller for 695- and 853-nm photons, respectively. For smaller angles such as 18 degrees the **contrast** was found to be a factor of 2 and 4 smaller for 695- and 853...

... The condition that the lesion must be located next to the skin surface where a **detector** or **camera** is placed overrides any other effect.

Identifiers: **image contrast** ; ...

... **angular** flux...

...DOT **computer** code

22/3,K/3 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

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01804497 INSPEC Abstract Number: A82018296, B82011902

**Title:** A digital variable persistence oscilloscope for gamma cameras

Author(s): Fenwick, J.D.; Thompson, A.

Author Affiliation: Regional Medical Phys. Dept., Newcastle General Hospital, Newcastle upon Tyne, UK

Journal: Physics in Medicine and Biology vol.26, no.6 p.1165-9

Publication Date: Nov. 1981 Country of Publication: UK

CODEN: PHMBA7 ISSN: 0031-9155

Language: English

Subfile: A B

**Title:** A digital variable persistence oscilloscope for gamma cameras

Abstract: The system described is intended as a direct replacement for the **analogue** persistence oscilloscope, particularly in systems without a **computer** processor. It uses digital and video techniques to produce an **image** quality suitable for use in positioning patients under the **camera** at a low cost. The performance is superior to the **analogue** oscilloscope in that the **image** is **displayed** with 16 shades of **grey**. It incorporates an automatic **brightness** control which ensures that the **image** does not saturate at high count density, and the saturation can be **changed** manually allowing areas of low counts to be examined in the presence of high counts...

...single event as a dot which fades exponentially with time, as is done on the **analogue display** screen. This problem has been solved by adding each event into the appropriate cell of a digital **display** matrix, and then periodically dividing the contents of each **image** cell by two. The cells are addressed and divided in a pseudo-random **pattern** so that, to the observer, the whole **image** appears to fade smoothly and evenly.

...Identifiers: gamma **cameras** ; ...

...automatic **brightness** control...

...digital **display** matrix

22/3,K/4 (Item 1 from file: 6)

DIALOG(R)File 6:NTIS

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2235524 NTIS Accession Number: ADA400557/XAB

**Opponent-Color Fusion of Multi-Sensor Imagery : Visible, IR and SAR**  
(Conference proceedings)

Waxman, A. M. ; Aguilar, M. ; Baxter, R. A. ; Fay, D. A. ; Ireland, D. B.  
Massachusetts Inst. of Tech., Lexington. Lincoln Lab.

Corp. Source Codes: 009875001; 207650

Jan 1998 20p

Languages: English

Journal Announcement: USGRDR0218

See Also ADM201041, 1998 IRIS Proceedings on CD-ROM. The original document contains color images.

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NTIS Prices: PC A03/MF A01

**Opponent-Color Fusion of Multi-Sensor Imagery : Visible, IR and SAR**

The primary motivation for multi-sensor **image** fusion is to combine the complementary information derived from **different** modality sensors. Building on the work reported in two of our earlier papers from IRIS Passive Sensors 1996, we **show** how opponent-color processing and **center-surround** shunting neural networks can be used to develop a variety of **image** fusion architectures. By emulating single-opponent color processing cells in the retina, and double-opponent color cells in primary visual cortex, we demonstrate an effective strategy for color **image** fusion as applied to: low-light visible and thermal IR fusion for color night vision, 6-band multispectral fusion for camouflage **detection**, EO/IR/SAK multi-modal fusion from separate sensor platforms. We have also developed a ...

... using commercially available boards, and use it in conjunction with the Lincoln Lab low-light **CCD** and an uncooled IR **camera**. Limited human factors **testing** of visible/IR fusion has shown improved human performance using our color fused **imagery** as **compared** to alternative fusion strategies or either single **image** modality alone. We conclude that fusion architectures which match opponent-sensor **contrasts** to human opponent-color pathways will yield fused **image** products of high **image** quality and utility.

Descriptors: **Image** processing; \*Colors; Radar **images**; Infrared **images**; Night vision; Thermal **images**; Multispectral; Infrared **cameras**; Sensor fusion

22/3,K/5 (Item 2 from file: 6)

DIALOG(R)File 6:NTIS

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1836718 NTIS Accession Number: PB94-218575

**Adaptive, Predictive 2-D Feature Tracking Algorithm for Finding the Focus of Expansion**

Krishnan, S. ; Raviv, D.

National Inst. of Standards and Technology (MEL), Gaithersburg, MD.  
Intelligent Systems Div.

Corp. Source Codes: 101975009;

Sponsor: Florida Atlantic Univ., Boca Raton. Robotics Center.; National Science Foundation, Arlington, VA.

Report No.: NISTIR-5460

Jun 94 30p

Languages: English

Journal Announcement: GRAI9424

Prepared in cooperation with Florida Atlantic Univ., Boca Raton. Robotics Center. Sponsored by National Science Foundation, Arlington, VA.

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NTIS Prices: PC A03/MF A01

**Adaptive, Predictive 2-D Feature Tracking Algorithm for Finding the Focus of Expansion**

This paper describes a robust, pixel-based adaptive algorithm to track **image** features, both spatially and temporally, over a sequence of monocular **images**. The algorithm assumes no a priori knowledge about the features to be tracked, or the motion of the **camera** or the objects, in the 3-D scene. The features to be tracked are selected...

... algorithm and these correspond to the peaks of a 'matching surface' constructed from the first **image** of the sequence to be **analyzed**. Any

kind of motion can be tolerated keeping in mind the pixels-per-frame motion limitations. In our **experiments**, we have used the algorithm for tracking up to 3 pixels motion between frames with absolutely no subpixel **calculations** being necessary. Taking into account constraints of temporal continuity, the algorithm uses simple and efficient predictive tracking over multiple frames. The algorithm accepts a slow, continuous **change** of **brightness** D.C. level in the pixels of the feature. Trajectories of features on multiple objects can be **computed**. As an application of the algorithm we **show** how the algorithm can be used to find the **Focus** of Expansion (FOE) using a sequence of real **images**.

Descriptors: Motion; \*Optical tracking; \* **Computer** vision; \*Two dimensional flow; Feature extraction; **Pattern** recognition; **Image** processing; Algorithms; Pixels

Identifiers: FOE( **Focus** of Expansion); NTISCOMNBS; NTISNSFG

22/3,K/6 (Item 3 from file: 6)

DIALOG(R)File 6:NTIS

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1706646 NTIS Accession Number: N93-14346/9

**Groundbased Near-IR Observations of the Surface of Venus**

Meadows, V. S. ; Crisp, D. ; Allen, D. A.

Sydney Univ. (Australia).

Corp. Source Codes: 008588000; S6573076

Sponsor: National Aeronautics and Space Administration, Washington, DC.

1992 2p

Languages: English

Journal Announcement: GRAI9308; STAR3104

In Lunar and Planetary Inst., Papers Presented to the International Colloquium on Venus p 70-71.

NTIS Prices: (Order as N93-14288/3, PC A07/MF A02)

We present **images** of the nightside of Venus taken in the near-infrared windows at 1.0, 1.1, 1.18, 1.28, 1.31, and 2.3 microns with the new infrared **camera** /spectrometer IRIS on the Anglo-Australian Telescope. These data were taken in spectral-mapping mode...

...positions across the planet. We produce data cubes with one spectral and two spatial dimensions. **Images** can be extracted over any wavelength regions. Each **image** has square pixels of 0.8 inch resolution. We reduced the scattered light from the sunlit crescent in **images** extracted from each window by subtracting **images** taken on either side of the window, where the Venus atmosphere is opaque. **Unlike** the short wavelength windows, which reveal thermal **contrasts** that originate primarily from the surface and deep atmosphere, the emission in the 2.3 microns window is produced at much higher altitudes (30-40 km). Emission **contrasts** seen near 2.3 microns are associated with **horizontal** variations in the cloud optical depths, and have rotation periods of about six days. We **detect** large **contrasts** in infrared emission (20-40 percent) across the disc of Venus in the 1.0-, 1.1-, 1.18-, 1.28-, and 1.31-micron **images**. **Contrasts** at these wavelengths may be due to a combination of variations in the optical depths of the overlying sulfuric acid clouds and **differences** in surface emission. **Comparison** with the 2.3-micron **images** **show** that the **patterns** seen in the 1.28- and 1.31-micron windows are consistent with cloud optical depth variations alone and require no contribution from the surface. However, **images** at 1.0, 1.1, and 1.8 microns from July 1991 **show** a dark feature having a **contrast** that increases with decreasing wavelength. This behavior is contrary to that expected of cloud absorption.

**Images** taken on three successive days in October **show** another dark feature that is stationary with respect to the surface. These regions of lower...

... correspond closely to the high-altitude surface regions of Beta Regio and Aphrodite Terra. The **images** can potentially reveal the near-infrared emissivity of the surface of Venus, thereby complementing Magellan radar reflectivity and ground based radio emissivity measurements. The **contrast** ratio between highlands and plains is much smaller than would be expected for blackbody radiation from the surface alone. **Unlike** at radio wavelengths, where the atmosphere is essentially transparent, at near-infrared wavelengths the atmosphere emits, absorbs, and scatters radiation, and can modify the observed topographically induced **contrasts**. The additional radiation from the atmosphere reduces the **contrast**, and further modification would be expected if terrain at **different** altitudes has **different** emissivities. A fit to our data therefore requires, and may constrain, a model of the...

Descriptors: Infrared **imagery** ; \*Venus atmosphere; \*Venus surface; Infrared astronomy; Space observations (From earth); Imaging spectrometers; Near infrared radiation...

22/3,K/7 (Item 4 from file: 6)

DIALOG(R) File 6:NTIS

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1049517 NTIS Accession Number: AD-P001 197/3

**Facet Approach to Optic Flow**

Haralick, R. M. ; Lee, J. S.

Virginia Polytechnic Inst. and State Univ., Blacksburg. Dept. of Computer Science.

Corp. Source Codes: 032784044; 411098

Jun 83 10p

Languages: English

Journal Announcement: GRAI8322

This article is from 'Image Understanding: Proceedings of a Workshop (14th) Held at Arlington, Virginia on June 23, 1983,' AD-A130 251.

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NTIS Prices: PC A02/MF A01

The facet approach requires low level **image** processing techniques to be based on fitting each local **image** neighborhood with a function and interpreting all processing in terms of what the processing does to this locally fit function. Using the facet approach the authors develop a **different** meaning of the usual optic flow equation. They **show** that it represents the intersection line of the isocontour plane with a successive **image** frame. The intersection line on the successive frame contains the possible match points. A unique match point can be selected by requiring it to have the same **brightness** as the given pixel. It is shown that this procedure amounts to assuming that all derivatives of third or higher order are negligible and that **gray** tone intensity and first partial derivatives in row, column, and time must match.

Descriptors: **Image** processing; \* **Image** motion compensation; \*Fitting functions(Mathematics); Computations; Low level; Equations; **Cameras** ; Stationary; Motion

22/3,K/8 (Item 5 from file: 6)

DIALOG(R)File 6:NTIS

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0174501 NTIS Accession Number: AD-684 713/XAB

Contrast **-Enhancing and Signal-Integrating** Image **-Intensifier Storage Tube. Volume Ii. Experimental Finding**

Charles, D. R. ; Wendt, G.

Centre de Physique Electronique Et Corpusculaire Orsay (France)

Corp. Source Codes: 078550

Report No.: WR-1716-2; AFAL-TR-68-270-VOL-2

Nov 68 116p

Journal Announcement: USGRDR6910

See also Volume 1, AD-684 712.

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NTIS Prices: PC A06/MF A01

Contrast **-Enhancing and Signal-Integrating** Image **-Intensifier Storage Tube. Volume Ii. Experimental Finding**

The INTIC tube is an electronic **analogy** of a photographic camera which provides an instantaneous **display** of the **image**, with the possibility of a much improved **contrast**. The scene is projected onto the photocathode of the tube during exposure. The photoelectrons emitted are **focused** on the insulating layer which is deposited on a fine mesh and acts as a store; there they produce a corresponding potential **pattern**. A wide and uniform beam of electrons sprayed through this grid is modulated by the potential **pattern** and produces the long-life **image** desired on the screen of the **image** tube. Tubes with electrostatic or magnetic **focusing** were produced. The design and production of 12 **different** types of INTIC tubes and **image** preamplifiers (52 tubes) are described, as well as the technological progress achieved (choice and deposition...).

... and the results are discussed, in particular the measurements of the storage grid characteristic and **comparison** of these measurements with the theoretical results, as well as the performance measurements of the...

Descriptors: Night photography; \* **Image** intensifiers(Electronics); \*Storage tubes; \*Photographic reconnaissance; Aerial reconnaissance; Photographic **contrast**; Photocathodes; **Focusing**; France

22/3,K/9 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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04632578 E.I. No: EIP97023537471

**Title:** Boundary **-layer transition** detection in a cryogenic wind tunnel using luminescent **paint**

Author: Asai, Keisuke; Kanda, Hiroshi; Kunimasu, Tetsuya; Liu, Tianshu; Sullivan, John P.

Corporate Source: Natl Aerospace Lab, Tokyo, Jpn

Source: Journal of Aircraft v 34 n 1 Jan-Feb 1997. p 34-42

Publication Year: 1997

CODEN: JAIRAM ISSN: 0021-8669

Language: English

**Title:** Boundary **-layer transition** detection in a cryogenic wind tunnel using luminescent **paint**

Abstract: A technique for **boundary** **-layer transition** detection in a

cryogenic wind tunnel has been developed. This technique is based on the thermal quenching of **luminescent** molecules. Calibration results **show** that **luminescence** of the paint composed of ruthenium complex and silicone polymer is strongly sensitive to temperatures...

...range of 90-220 K. This capability allows one to visualize thermal signatures across the **boundary** -layer transition. A thin paint coating has been applied on three airfoil models with **different** thermal insulation properties. The paint was excited by a xenon light and the **luminescence image** was acquired using a high-resolution digital **camera**. To enhance the surface temperature signatures between laminar and turbulent regions, either the flow or the model substrate was cooled or heated in an active manner. Transition **patterns** have been successfully visualized by processing the **luminescent images**. **Boundary** -layer transition has been **detected** using this technique over a cryogenic temperature range of 90 - 150 K in subsonic and...

Descriptors: Wind tunnels; Cryogenic equipment; Airfoils; **Luminescence**; Thermal insulating materials; Temperature indicating **cameras**; **Boundary** layer flow; Laminar flow; Turbulent flow; Subsonic flow

Identifiers: **Boundary** layer transitions; Cryogenic wind tunnels; **Luminescent** paint

22/3,K/10 (Item 1 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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08754498 Genuine Article#: 326NN No. References: 32

**Title: Robustness of a multiscale scheme of feature points detection**

Author(s): Fayolle J (REPRINT) ; Riou L; Ducottet C

Corporate Source: LAB TRAITEMENT SIGNAL & INSTRUMENTAT,CNRS, UMR 5516, 23 RUE DOCTEUR P MICHELON/F-42023 ST ETIENNE DU ROUVRAY//FRANCE/ (REPRINT)

Journal: PATTERN RECOGNITION, 2000, V33, N9 (SEP), P1437-1453

ISSN: 0031-3203 Publication date: 20000900

Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

**Title: Robustness of a multiscale scheme of feature points detection**

Abstract: We present a new scheme for feature points **detection** on a **grey** level **image**. Its principle is the **study** of the gradient phase signal along object edges and the characterization of the behavior across scales of the wavelet coefficients of this signal. The features points are **determined** as transition points of this signal. In the second part, we **study** the robustness of the **detection** scheme against **changes** of the acquisition parameters: the viewpoint and the zoom of the **camera**, the object rotation, the **luminescence** variation and noise. The results **show** the method efficiency: most of the points are still **detected** even if these parameters vary. (C) 2000 **Pattern** Recognition Society. Published by Elsevier Science Ltd. All rights reserved.

22/3,K/11 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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08084499 Genuine Article#: 245CK No. References: 99

**Title: Linear polarization and molecular filamentary clouds**

Author(s): Harjunpaa P (REPRINT) ; Kaas AA; Carlqvist P; Gahm GF

Corporate Source: STOCKHOLM OBSERV,/S-13336 SALTSJOBADEN//SWEDEN/ (REPRINT)  
; UNIV HELSINKI,HELSINKI OBSERV/SF-00014 HELSINKI//FINLAND//; ROYAL INST  
TECHNOL,DEPT PLASMA PHYS, ALFVEN LAB/S-10044 STOCKHOLM//SWEDEN/  
Journal: ASTRONOMY AND ASTROPHYSICS, 1999, V349, N3 (SEP), P912-926  
ISSN: 0004-6361 Publication date: 19990900  
Publisher: SPRINGER VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Abstract: We have carried out deep **CCD** polarimetry in the I band in  
selected fields in three filamentary, molecular clouds: the L1400...

...extinctions from star counts in and around the observed fields. In the  
L1400 complex we **imaged** a 48 arcmin(2) field in the H and K bands,  
providing independent measures of extinction based on the E(H - K)  
colour excess.

Our measurements **show** that the **patterns** of polarization are  
remarkably smooth over the fields studied, particularly in the L1400  
complex. There is no indication of tiny statistically significant  
**difference** in polarization angle and degree between obscured and  
non-obscured regions. MBM25. with the lowest...

...polarization vectors, but the statistics is here less good. Our method  
opens the possibility to **study** small-scale irregularities in the  
polarization **pattern** on **angular** scales down to a few arcseconds.  
**Comparing** the extinction A(V) and P/A(V) in the field observed in the  
H...

...obtained for other cloud regions comprising less detailed spatial scale  
and a smaller depth in **brightness**. Using a semi-empirical version of  
the Davis-Greenstein mechanism we have **calculated** the polarization  
for simple models of the three clouds studied, and find that it is...

22/3,K/12 (Item 3 from file: 34)  
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2004 Inst for Sci Info. All rts. reserv.

07147706 Genuine Article#: 129FE No. References: 10  
**Title: An evaluation of the signal and noise characteristics of four CCD  
-based film digitizers**  
Author(s): Hangiandreou NJ (REPRINT) ; OConnor TJ; Felmlee JP  
Corporate Source: MAYO CLIN & MAYO FDN,DEPT DIAGNOST RADIOL, 200 1ST ST  
SW/ROCHESTER//MN/55905 (REPRINT); MAYO CLIN & MAYO FDN,DEPT INFORMAT  
SERV/ROCHESTER//MN/55905  
Journal: MEDICAL PHYSICS, 1998, V25, N10 (OCT), P2020-2026  
ISSN: 0094-2405 Publication date: 19981000  
Publisher: AMER INST PHYSICS, CIRCULATION FULFILLMENT DIV, 500 SUNNYSIDE  
BLVD, WOODBURY, NY 11797-2999  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

**Title: An evaluation of the signal and noise characteristics of four CCD  
-based film digitizers**

...Abstract: In this paper, we studied the performance of film digitizers  
based on charge-coupled device **detectors** (CCD digitizers), and  
**compared** this with the performance of a laser digitizer (the de facto  
standard). Our **focus** was on the **assessment** of signal, noise and  
useful optical density range performance. A function ( $L \cdot \Delta D$ )  
derived from the Rose model was used to **evaluate** these parameters in  
absolute terms, based their predicted ability to **detect** objects of



specific size and optical density **difference** with respect to background. We studied **CCD** digitizers from four **different** vendors and found that none was able to reliably operate up to the maximum density...

...required to digitize plain radiographs, while the laser digitizer was capable of this task. Our **analysis** also indicated that two of the four **CCD** digitizers were adequate for digitizing laser-printed cross-sectional **images** in certain cases. Finally, our **analysis** indicated that digitization of SMPTE **pattern** films along with visual **assessment** of the 5% and 95% **contrast** patches was not sufficient for **determining** the utility of film digitizers for clinical tasks. Computation of the L\*Delta D function provides a useful means of **assessing** the performance of film digitizers (e.g., for acceptance **testing** and quality control), and this technique may be adaptable for **evaluation** of other digital imaging modalities. (C) 1998 American Association of Physicists in Medicine. [S0094-2405...  
...Identifiers--TEST **PATTERN** ; LASER; **DISPLAYS**

22/3,K/13 (Item 4 from file: 34)  
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2004 Inst for Sci Info. All rts. reserv.

06081929 Genuine Article#: XT893 No. References: 37  
**Title: New observations and studies of Saturn's long-lived north polar spot**  
Author(s): SanchezLavega A (REPRINT) ; Rojas JF; Acarreta JR; Lecacheux J; Colas F; Sada PV  
Corporate Source: UNIV PAIS VASCO,ETS INGN, DEPT FIS APLICADA 1, ALDA URQUIJO S-N/BILBAO//SPAIN/ (REPRINT); INTA,LAEFF, LAB ASTROFIS & FIS FUNDAMENTALE/MADRID//SPAIN/; OBSERV PARIS,DEPT RECH SPATIALES/MEUDON//FRANCE/; BUR LONGITUDES,/PARIS//FRANCE/; NASA,GODDARD SPACE FLIGHT CTR, PLANETARY SYST BRANCH/GREENBELT//MD/20771  
Journal: ICARUS, 1997, V128, N2 (AUG), P322-334  
ISSN: 0019-1035 Publication date: 19970800  
Publisher: ACADEMIC PRESS INC JNL-COMP SUBSCRIPTIONS, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Abstract: We report on a new series of ground-based **CCD** observations at visual wavelengths, covering a period of 1255 days between May 1992 and November...

...feature known in Saturn's atmosphere: the north polar spot (NPS). This completes our previous **analysis** of this feature during the period 1990-1991 (A. Sanchez-Lavega, J. Lecacheux, F. Colas...

...combined with previous and new measurements of the NPS position on Voyager 1 and 2 **images** obtained in 1980 and 1981, indicate a long-term drift in longitude of the NPS with a constant **angular** acceleration of  $1.1 \times 10^{-5}$  deg/(day)(2). High-resolution Voyager 2 violet, blue, green, and orange **images** were used to measure the size and reflectivity of the NPS. Its structure is characterized...

...a bright elliptical core surrounded by a dark ring and a large uniform area. The **contrast** between all these features **changes** appreciably from violet to orange: the spot is dark in violet but bright in orange  
...

...a "field of bright clouds" with characteristic size 1000 km

reminiscent of a cellular convection **pattern** . The NPS's east-west apparent size is shorter at violet-blue (about 7000 km...

...al green-orange (about 11,000 km corresponding to the large uniform area). Green processed **images** **show** apparent spiral **patterns** within the NPS consistent with anticyclonic vorticity, The results of ground-based photometry of the...

...bands and their adjacent continuum are consistent with a radiative transfer model of the cloud **vertical** structure consisting of a clear gas layer, a haze layer, and a semi-infinite cloud...

...cloud tops are slightly higher than neighboring clouds reaching a pressure level of 45 mbar. **Calculations** of the seasonal insolation at the north pole, together with a simple linear radiative response of the atmosphere to this heating at **different** altitudes, suggest temperature **changes** at the level of the NPS cloud tops which should influence the NPS dynamics. Because...

...Identifiers--HUBBLE-SPACE-TELESCOPE; ROTATION PERIOD; ATMOSPHERE; HEXAGON; **IMAGES**; PHOTOMETRY; DYNAMICS; JUPITER

22/3,K/14 (Item 5 from file: 34)  
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2004 Inst for Sci Info. All rts. reserv.

05923197 Genuine Article#: XG937 No. References: 24  
**Title: Small-angle X-ray reflectivity of Co/Cu superlattices and other low-contrast multilayers: The influence of dispersion**  
Author(s): Holloway H (REPRINT) ; Kubinski DJ  
Corporate Source: FORD MOTOR CO, RES LAB, SRL-MD3028/DEARBORN//MI/48121 (REPRINT)  
Journal: JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, 1997, V170, N1-2 (JUN ), P95-102  
ISSN: 0304-8853 Publication date: 19970600  
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

**Title: Small-angle X-ray reflectivity of Co/Cu superlattices and other low-contrast multilayers: The influence of dispersion**

**Abstract:** The inner interfaces of many magnetic multilayer systems give relatively small X-ray diffraction **contrast** , because their constituents have similar electron densities. This enhances the influence on the diffraction **patterns** of **differences** in absorption (i.e., in the imaginary parts of the scattering factor). As an example

...consider Co/Cu superlattices that have been widely studied because of their large magnetoresistance. We **show** that small-angle reflection X-ray diffraction **patterns** from these structures are much influenced by the effects of dispersion when CuK alpha radiation...

...wavelength the Fresnel coefficient for reflection at the Co/Cu interfaces is dominated by the **difference** in the imaginary parts of the refractive indices. This leads to asymmetric superlattice reflections that correspond to the lack of a **center** of symmetry in the superlattice unit cell. The diffraction **patterns** **show** obvious **differences** depending on whether the X-ray beam encounters the structure /Cu/Co/Cu/Co/... or its mirror **image** /Co/Cu/Co/Cu/... . The predicted asymmetric diffraction **patterns** are confirmed by measurements of Co/Cu superlattices on Si substrates. There is evidence for similar asymmetric behavior with NiO/CoO and Fe/Cr superlattices,

even though the interfacial **contrast** in the latter system is dominated by the **difference** in the real parts of the refractive indices.

Research Fronts: 95-0316 002 (X-RAY REFLECTIVITY; INTERFACE ROUGHNESS; THIN PERFECT CRYSTALS IN A BONSE-HART **CAMERA** ; ULTRATHIN FILMS; GRAZING-INCIDENCE DIFFRACTION; SURFACE SCATTERING)  
95-1615 002 (GIANT MAGNETORESISTANCE; MAGNETIC MULTILAYERS; INTERLAYER

...

...UNDULATOR RADIATION)

95-5978 001 (CO/CU SUPERLATTICES; INTERFACE ROUGHNESS OF MULTILAYERS; X-RAY STRUCTURAL- **ANALYSIS** ; TAU-MNAL FILMS; MOLECULAR-BEAM EPITAXY)

**22/3,K/15** (Item 6 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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04378855 Genuine Article#: RZ271 No. References: 41

**Title: MIDINFRARED OBSERVATIONS OF THE NUCLEUS AND DUST OF COMET P/SWIFT-TUTTLE**

Author(s): FOMENKOVA MN; JONES B; PINA R; PUETTER R; SARMECANIC J; GEHRZ R; JONES T

Corporate Source: NASA, AMES RES CTR, MS 239-4/MOFFETT FIELD//CA/94035; UNIV CALIF SAN DIEGO, CTR ASTROPHYS & SPACE SCI/LA JOLLA//CA/92093; UNIV MINNESOTA, DEPT ASTRON/MINNEAPOLIS//MN/55455

Journal: ASTRONOMICAL JOURNAL, 1995, V110, N4 (OCT), P1866&

ISSN: 0004-6256

Language: ENGLISH Document Type: ARTICLE (Abstract Available)

...Abstract: pre-perihelion observations of comet P/Swift-Tuttle obtained with the UCSD mid-infrared astronomical **camera** on 12 nights in November 1992. The **images** were taken through a 1  $\mu$  m wide filter **centered** at 11.65  $\mu$  m. During the observing run, the heliocentric distance decreased from 1...

...geocentric distance increased from 1.16 to 1.33 AU. The spatial scale of the **images** was 700-800 km per pixel. In addition, photometric data at wavelengths between 3.6 and 18.5  $\mu$  m were obtained on one night. The infrared **images** cover the cometary activity on time scales from hours to weeks and reveal large **changes** in the overall morphology of the coma. From periodic **changes** in the jet **patterns** we **determined** the period of nuclear rotation of 67.5 $\pm$ 0.4 h. Photometry indicates that the...

...7  $\mu$  m. The dust mass loss rate varied with the R(-6.3) and **displayed** similar to 40% variation with the rotational phase. Two major jets were heliocentric distance as R present in the **images** obtained on November 07-17, and a third area became active on November 24-29...

...1741 (1981)] from the data on the P/Swift-Tuttle apparition in 1862. The radial **brightness** profiles suggest the radius of the nucleus is 15 $\pm$ 3 km. This implies that the...

**22/3,K/16** (Item 7 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2004 Inst for Sci Info. All rts. reserv.

03550427 Genuine Article#: PL640 No. References: 42

**Title: HIGH TEMPORAL AND SPATIAL-RESOLUTION STUDIES OF BONE-CELLS USING  
REAL-TIME CONFOCAL REFLECTION MICROSCOPY**

Author(s): BOYDE A; VESELY P; GRAY C; JONES SJ

Corporate Source: UNIV LONDON UNIV COLL, DEPT ANAT & DEV BIOL, GOWER  
ST/LONDON WC1E 6BT//ENGLAND/

Journal: SCANNING, 1994, V16, N5 (SEP-OCT), P285-294

ISSN: 0161-0457

Language: ENGLISH Document Type: ARTICLE (Abstract Available)

...Abstract: individual osteoclasts (but also osteoblasts) were selected and studied at 37 degrees C using three **different** types of high-speed scanning confocal microscopes: (1) A Noran Tandem Scanning Microscope (TSM) was used with a low light level, cooled **CCD camera** for **image transfer** to a Noran TN8502 frame store-based **image analysing computer** to make time lapse movie sequences using 0.1 s exposure periods, thus losing some of the advantage of the high frame rate of the TSM, Rapid **focus** adjustment using **computer** controlled piezo drivers permitted two or more **focus** planes to be **imaged** sequentially: thus (with additional light-source shuttering) the reflection confocal **image** could be alternated with the phase **contrast image** at a **different focus**. Individual cells were followed for up to 5 days, suggesting no significant irradiation problem: (2...

...and AOD for the frame scan. We discuss the technical problems and merits of the **different** approaches. The VRCSLMs documented rapid, real-time oscillatory motion: all the methods used **show** rapid net movement of organelles within bone cells. The interference reflection mode gives particularly strong **contrasts** in confocal instruments. Phase **contrast** and other interference methods used in the microscopy of living cells can be used simultaneously...

...Identifiers--SUBSTRATUM ADHESIONS; AVIAN OSTEOCLASTS; Podosomes; INVITRO; CYTOSKELETON; FIBROBLASTS; RESORPTION; **PATTERNS**; VINCULIN

22/3,K/17 (Item 1 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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785724 ORDER NO: AAD82-17407

**SPECKLE MEASUREMENTS WITH A CCD ARRAY: APPLICATIONS TO SPECKLE REDUCTION**

Author: EICHEN, ELLIOT GENE

Degree: PH.D.

Year: 1982

Corporate Source/Institution: THE UNIVERSITY OF ARIZONA (0009)

Source: VOLUME 43/03-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 770. 152 PAGES

**SPECKLE MEASUREMENTS WITH A CCD ARRAY: APPLICATIONS TO SPECKLE REDUCTION**

Speckle noise is an integral part of any laser projection **display** because it is the nature of laser (coherent) illumination to form interference **patterns** with high visibility. The granularity of the **image** due to the speckle formed on the viewer's retina degrades the **image** quality, thus stimulating the need for speckle reduction techniques applied to laser **displays**. An instrument to measure **image** plane speckle **contrast** was built based on a linear **CCD detector** array interfaced to an LSI-11 microcomputer. Speckle reduction techniques were then **evaluated** by **comparing** the **contrast** obtained with each method.

The effect of the spatial frequency response (MTF) on the measured

**contrast** was studied, along with the statistical significance of the measurement which is limited by the finite sample space of 1024 **detector** pixels per **CCD** frame. The lowering of the **contrast** due to the array MTF can be minimized by working at extremely high F numbers...

...all the frames as a single data set.

Techniques to reduce speckle noise in laser **displays** fall into two broad categories: reducing the coherence of light forming the speckle, and incoherently adding multiple uncorrelated (or partially correlated) speckle **patterns**. The first technique (effective only for monochromatic **displays**) was implemented by coating a screen with various dyes, phosphors, or fluorescent paints. Using the 514 nm line from an Argon laser, the **contrast** can be reduced by almost 30% by spraying a thin layer of fluorescent paint on the screen. More speckle reduction can be achieved with an accompanying loss in **image brightness**.

The second technique involved creating a multiplicity of partially correlated speckle **patterns** that appear from the same position on the screen over the integration period of the eye. The **different** speckle **patterns** are produced by **changing** the angle of illumination while keeping a portion of the laser spot **focused** on the same point on the screen. The scan angle method (applicable to multi-color **displays**), can be implemented by properly synchronizing an acousto-optic modulator with the scan optics, and...

...the screen. Using a beaded screen and a reasonable laser dither of 10 millirads, the **contrast** can be reduced by half.

...

22/3,K/18 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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04527451 JICST ACCESSION NUMBER: 00A0305142 FILE SEGMENT: JICST-E

Assessing the Image Quality of a CCD -Based Digital Intraoral Radiography System. Application of Perceptibility Curve Test.

HAYAKAWA Y (1); KITAGAWA H (1); WAKOH M (1); KUROYANAGI K (1); WELANDER U (2)

(1) Tokyo Dental Coll., Chiba, Jpn; (2) Karolinska Inst., Huddinge, Swe  
Bull Tokyo Dent Coll, 2000, VOL.41,NO.1, PAGE.9-14, FIG.5, REF.15

JOURNAL NUMBER: S0750BAV ISSN NO: 0040-8891

UNIVERSAL DECIMAL CLASSIFICATION: 616-073.916 616.31-07

LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

Assessing the Image Quality of a CCD -Based Digital Intraoral Radiography System. Application of Perceptibility Curve Test.

ABSTRACT: The perceptibility curve test is a method for **evaluating** the psychophysical properties of radiographic systems. The concept of the perceptibility curve is based on the minimum perceptible exposure **differences** that are recorded by a particular imaging system. The perceptibility curve test was applied to a Charge-Coupled Device (CCD)-based digital intraoral radiography system in this **study**. A test object was made of a square aluminum block, 28mm in both height and length and 10mm in thickness. The test object had ten **contrast** details in the form of round holes with diameters of 1.5mm. The depths of...

...them regarding the number of spots representing holes that they could perceive. The smallest perceptible **difference** in **gray** level on the **computer** monitor, a 15-inch cathode-ray tube (CRT), was then found. The minimum **difference** in **gray** level between a perceptible detail and the background was **determined**. Dose response functions were employed to **determine** exposures corresponding to these **gray** levels. For each case, **.DELTA.logE** as a function of the number of object details was **calculated**. Finally the reciprocal of all values of **(.DELTA.logE)min** were **calculated**. The number of details which the observers perceived decreased linearly with decreasing **.DELTA.logE** values...

...was eight or nine. The perceptibility curves showed that their peaks shifted slightly with a **change** of the kVp but that their shapes were similar at **different** kVp settings. (author abst.)

...DESCRIPTORS: digital **image** ; ...

... **image** **evaluation** ; ...

... **image** **quality**...

...CRT **display** ;

...BROADER DESCRIPTORS: **image** **technology**...

... **image** ; ...

... **evaluation** ; ...

... **image** **characteristic**...

... **pattern** **recognition**...

... **display** **device**

22/3,K/19 (Item 2 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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03956293 JICST ACCESSION NUMBER: 99A0202368 FILE SEGMENT: JICST-E

**Character Recognition in Bookshelf Images with Template Learning.**

SAWAKI MINAKO (1); MURASE HIROSHI (1); HAGITA NORIHIRO (2)

(1) Nippon Telegr. and Teleph. Corp., Basic Res. Lab.; (2) Nippon Telegr. and Teleph. Corp.

Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1998, VOL.98,NO.490(PRMU98 150-175), PAGE.41-48, FIG.8, TBL.2, REF.14

JOURNAL NUMBER: S0532BBG

UNIVERSAL DECIMAL CLASSIFICATION: 681.3:621.397.3 681.3:165

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

**Character Recognition in Bookshelf Images with Template Learning.**

ABSTRACT: This paper proposes a method for recognizing low-quality characters in scene **images** captured by a digital **camera**. Characters degraded by **different** illumination conditions and intensity variation are hardly recognized when templates with an individual character is...  
...such degradation, this paper employs the displacement matching and templates with neighboring characters of a **focused** character. The

templates including information on neighboring characters of a **focused** one improve the recognition accuracy for these degraded characters. Also, the displacement matching reduces segmentation error caused by degradation. **Experiments** with 3,468 characters in 9 **images** show that this method achieves a recognition rate of 96.3%, higher than 88.4% of...

...DESCRIPTORS: digital **image** ; ...

... **contrast** ; ...

... **luminance** ; ...

... **image** quality

...BROADER DESCRIPTORS: figure **pattern** recognition...

... **pattern** recognition...

... **image** ; ...

... **image** characteristic

22/3,K/20 (Item 3 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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03539433 JICST ACCESSION NUMBER: 98A0248004 FILE SEGMENT: JICST-E

**Understanding Man-Made Environments Using Nonstructured Lighting.**

TSUKIYAMA TOSHIFUMI (1)

(1) Electrotech. Lab., Agency of Ind. Sci. and Technol.

Keisoku Jido Seigyo Gakkai Ronbunshu(Transactions of the Society of Instrument and Control Engineers), 1998, VOL.34,NO.1, PAGE.1-8, FIG.9, TBL.1, REF.21

JOURNAL NUMBER: S0104AAH ISSN NO: 0453-4654 CODEN: KJSRA

UNIVERSAL DECIMAL CLASSIFICATION: 681.3:621.397.3

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

...ABSTRACT: their geometrical information; the orientation and perpendicular distance to a plane and the radius and **center** of a cylinder. The vision system consists of a TV **camera** and two flash lamps. The lamps are switched on alternately, and **images** under each lighting are taken at two **different** points. Under a point light source, even on a planar surface, there is a distribution of **luminance** due to diffuse and specular reflections. If the two light sources are arranged at appropriate positions with respect to the **camera**, the positions of the peak of the **luminance** distribution on each surface directly give such geometrical information on the surface. Our approach is...

...an entire scene considerably, because the geometrical information on target objects can be obtained without **analyzing** range maps. Since the equipment setup is very simple, the proposed technique would be useful, for example, for real-world robotic applications such as navigation of indoor mobile robots. The **experimental** results show that the method is sufficient for such purposes. (author abst.)

DESCRIPTORS: **computer** vision...

... **image** understanding...

... **image** **analysis** ; ...

... **luminance** ;

BROADER DESCRIPTORS: **computer** application...

... **image** processing...

... **analysis** (separation...

... **analysis** ; ...

... **pattern** recognition

22/3,K/21 (Item 4 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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01796002 JICST ACCESSION NUMBER: 93A0647986 FILE SEGMENT: JICST-E  
**Investigation of a new MTF measurement method for CRT image display systems.**

YOKOYAMA HIDETATSU (1); KIKUCHI TSUTOMU (1); TSUBOTA SHUICHI (1); NAKA TOMOYASU (1)

(1) Hokkaido Univ., School of Medicine, Hospital  
Hokkaido Hoshasen Gijutsu Zasshi(Journal of Hokkaido Radiologic Technology)  
, 1993, VOL.53, PAGE.1-6, FIG.7, REF.12

JOURNAL NUMBER: Y0845AAH ISSN NO: 0912-0327

UNIVERSAL DECIMAL CLASSIFICATION: 615.849-09

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

**Investigation of a new MTF measurement method for CRT image display systems.**

ABSTRACT: For the improvement of the diagnostic accuracy of observed CRT **display images** , and the high quality maintenance of CRT **image display** systems, one important theme is the establishment of an objective **evaluation** method of CRT's spatial resolution ability; this being an influential factor in deciding diagnostic...

...ray chart-method and found to be an improvement. We measured the densities of chart- **patterns** and **gray** -level **patterns** on 35mm black/white films taken by a **camera** and **displayed** on a CRT screen. By this method, we **calculated** the MTFs for two **different** resolution type CRTs, and studied several problems using our new measurement method. To decide the **brightness - contrast** volumes of CRTs we first **displayed** SMPTE- **patterns** on them. Then we found the most suitable condition of SMPTE **contrast pattern** , and measured the **brightness** value quantitatively. By this method, we could hold the same **brightness - contrast** condition and improve the accuracy of the MTF measurement. These results suggest that we could...

...elapsed quality loss of CRTs. Therefore, this method is useful for the management of CRT **image display** systems. (author abst.)

DESCRIPTORS: CRT **display** ;

BROADER DESCRIPTORS: **display** device...



22/3,K/22 (Item 5 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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01318381 JICST ACCESSION NUMBER: 91A0538783 FILE SEGMENT: JICST-E

**Separation and Extraction Methods of the Plant Image by Image**

**Processing.**

TAKAURA YUJI (1)

(1) Osaka Agricultural Res. Center

Osakafu Norin Gijutsu Senta Kenkyu Hokoku(Bulletin of the Osaka

Agricultural Research Center), 1991, NO.27, PAGE.39-44, FIG.7, REF.13

JOURNAL NUMBER: Z0419AAD ISSN NO: 0388-8592

UNIVERSAL DECIMAL CLASSIFICATION: 635.1/.8 581.08

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

**Separation and Extraction Methods of the Plant Image by Image**

**Processing.**

ABSTRACT: The methods for separation and extraction of the plant **image** which is included in the **image** of the visible light region were examined. 1)As the information relative to the color and **brightness** were included in the RGB **output** signals of the color video **camera** , it was impossible to separate and extract the plant **image** from the RGB gradation **images** . 2)As the RGB **output** signals were separated into the chromaticity(r,g,b)and lightness(L), there was the **difference** in the **luminance** distribution between the plant **image** and the background at the **image** of the chromaticity(g). 3)By composing the original **image** with the **image** operated an **image** of the chromaticity(g), it was possible to separate and extract the plant **image** with 64 **gray** levels. 4)Even if the background and the light condition were **different** , by taking the window operation for the **image** of **image** of the chromaticity(g), it was possible to separate and extract the plant **image** . (author abst.)

...DESCRIPTORS: biological **image** ; ...

... **image** processing...

... **image** processing system...

...personal **computer** ; ...

... **luminance** ; ...

...video **camera** ;

...BROADER DESCRIPTORS: **image** ; ...

... **computer** application system...

...digital **computer** ; ...

... **computer** ; ...

... **camera** ; ...

... **image** pickup apparatus...

... **pattern** recognition

22/3,K/23 (Item 6 from file: 94)  
DIALOG(R)File 94:JICST-EPlus  
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00666880 JICST ACCESSION NUMBER: 88A0467356 FILE SEGMENT: JICST-E  
**Visualization studies of combustion process in a spark ignition engine with  
a horizontal prechamber.**

INAMORI JUN (1); RYU H (1); ASANUMA TSUYOSHI (2)  
(1) Tokai Univ., Graduate School; (2) Tokai Univ., School of Engineering  
Nagare no Kashika, 1988, VOL.8, NO.30, PAGE.209-214, FIG.7, REF.2  
JOURNAL NUMBER: S0973BAU ISSN NO: 0287-3605  
UNIVERSAL DECIMAL CLASSIFICATION: 621.433/.434  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Journal  
ARTICLE TYPE: Original paper  
MEDIA TYPE: Printed Publication

**Visualization studies of combustion process in a spark ignition engine with  
a horizontal prechamber.**

ABSTRACT: To understand the combustion process in a spark ignition engine  
with an unscavenged **horizontal** prechamber, the flame propagation in  
both the pre- and main chamber is simultaneously visualized by a high  
speed **camera** changing the torch nozzle area, while keeping the  
engine speed of N. **IMAGE** .1000rpm, the volumetric efficiency of .ETA.v.  
**IMAGE** .80% and the air-fuel ratio of A/F. **IMAGE** .15 constant. Then an  
**image** -processing **camera** is used to assign the **brightness** of flame  
photograph into 16 steps of false color, and the signals of **brightness**  
are stored in floppy disk of **computer** through an **image** memory (or  
slot card). Such **image** -processed flame **patterns** are projected on  
the T.V. **display** and possible to be taken photograph by a still- or  
8mm **camera** . Accordingly, it is seen that the **patterns** of flame  
propagation in the main chamber are remarkably affected by torch nozzle  
area and...

...burned portion to main chamber area (combustion area fraction) is also  
similar to the engine **output** (BMEP). Furthermore the time history of  
averaged **brightness** distribution on the **center** line of the main  
chamber is found to be in reasonable agreement with the time...

...DESCRIPTORS: high speed **camera** ; ...

... **image** processing...

... **computer** graphics

...BROADER DESCRIPTORS: **camera** ; ...

... **image** technology...

... **computer** application

22/3,K/24 (Item 1 from file: 144)  
DIALOG(R)File 144:Pascal  
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14907644 PASCAL No.: 01-0056765  
Comparisons of the camera OECF, the ISO speed, and the SFR of digital  
still-picture cameras  
Input/ output and imaging technologies : Taipei, 26-27 July 2000  
HSU Wei-Feng; CHUANG Kai-Wei; HSU Yun-Chiang

YUNG-SHENG LIU, ed; HUANG Thomas S, ed  
Institute of Electro-Optical Engineering, Tatung University, 40,  
Chungshan North Road, 3rd Sec., Taipei, 104, Taiwan  
International Society for Optical Engineering, Bellingham WA, United  
States

Input/output and imaging technologies. Conference, 2 (Taipei TWN)  
2000-07-26

Journal: SPIE proceedings series, 2000, 4080 104-111  
Language: English

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Comparisons of the camera OECF, the ISO speed, and the SFR of digital  
still-picture cameras

Input/ output and imaging technologies : Taipei, 26-27 July 2000

... techniques as well as the measurement results of the performance of  
commercial digital still-picture cameras are presented. The key  
parameters such as the camera Opto-Electronic Conversion Function (OECF),  
the noise based ISO speed, and the spatial frequency response (SFR) are  
reported. The camera OECF is defined as the relationship between the  
input luminance and the grayscale or digital output from the camera ,  
which was measured by using a test chart with twelve squares of various  
luminances . The ISO speed was calculated from the exposure time, the  
effective f-number, and the luminance at different incremental  
signal-to-noise ratios. In general, the exposure time is not obtainable  
from a commercial digital camera unless a destructive measurement is  
undergoing. In this study , a device was setup to obtain the exposure time  
when the OECF test chart was recording. A modified slanted-edge method was  
employed to estimate the SFR by imaging a pattern with a black-to-white  
edge tilted at an arbitrary angle. There are seven digital still picture  
cameras as our test samples whose CCD sensor contains VGA-size and  
million pixels. The camera OECF of these cameras did not show  
significant difference under a large range of illumination. However, the  
ISO speed and the SFR were of...

English Descriptors: Camera ; CCD camera ; Digital image ; Signal to  
noise ratio; Spatial frequency; Frequency response; Luminance ; Gray  
scale ; Exposure time; Image quality; Comparative study

French Descriptors: Appareil photographique; Camera CCD ; Image  
numerique; Rapport signal bruit; Frequence spatiale; Reponse frequence;  
Luminance ; Echelle gris; Temps exposition; Qualite image ; Etude  
comparative

Spanish Descriptors: Maquina fotografica; Camara CCD ; Imagen numerica;  
Relacion senal ruido; Frecuencia espacial; Respuesta frecuencia;  
Luminancia ; Escala gris; Tiempo exposicion; Calidad imagen ; Estudio  
comparativo

22/3,K/25 (Item 2 from file: 144)

DIALOG(R) File 144:Pascal

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14756289 PASCAL No.: 00-0434179

Probing of two-dimensional grid patterns by means of camera based  
image processing

Machine vision applications in industrial inspection VIII : San Jose CA,  
24-26 January 2000

SCHROECK M; DOIRON T

TOBIN Kenneth W, ed  
Precision Engineering Division, National Institute of Standards and  
Technology, Unknown  
International Society for Optical Engineering, Bellingham WA, United  
States  
Machine vision applications in industrial inspection. Conference, 8 (San  
Jose CA USA) 2000-01-24  
Journal: SPIE proceedings series, 2000, 3966 9-17  
Language: English

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**Probing of two-dimensional grid patterns by means of camera based  
image processing**

**Camera** based probes and machine vision have found increased use in  
coordinate measuring machines over the...

... two dimensional measuring machines with electro-optic microscopes or  
scanning devices as probes. These sensors **evaluate** only a small section  
of the edge of a grid mark, and irregularities in this...

... the measurement result. Since these measurements result in a single  
number based on the entire **field of view**, the influence of small  
irregularities are not easily **detected**. Since **different** probes scan  
different parts of the grid mark edge they may give systematically  
**different** positions of the mark. The conversion to video based sensors  
has allowed more flexibility in edge **detection**, although most instruments  
still use least squares fits as the substitute geometry of straight edges.  
This method is very susceptible to noise and edge irregularities. We  
present some **experiments** for finding the sub-pixel edge point locations  
and fitting the set of edge points...

... of absolute deviations fit. Data from a high accuracy 2D measuring  
machine is used to **show** the strengths of the algorithms.

English Descriptors: **Image** processing; Artificial vision; Coordinate  
measuring machine; **Computer** vision; Electrooptical device; Scanning  
device; Contamination; Measurement method; Two dimensional model;  
Measurement sensor; Calibration; Algorithm; Theoretical **study**

French Descriptors: Traitement **image**; Vision artificielle; Machine mesure  
coordonnee; Vision ordinateur; Dispositif electrooptique; Dispositif  
balayage; Contamination; Methode mesure; Modele...

Spanish Descriptors: Procesamiento **imagen**; Vision artificial; Maquina  
medida coordenada; Vision ordenador; Dispositivo electrooptico;  
Dispositivo barrido; Contaminacion; Metodo medida; Modelo 2 dimensiones;  
Captador medida; **Contraste**; Algoritmo; Estudio teorico

22/3,K/26 (Item 3 from file: 144)  
DIALOG(R)File 144:Pascal  
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14756052 PASCAL No.: 00-0433938  
**A unifying theory for central panoramic systems and practical  
implications**  
Computer vision : Dublin, 26 June - 1 July 2000  
GEYER C; DANIILIDIS K  
VERNON David, ed

University of Pennsylvania, GRASP Laboratory, Pennsylvania, PA 19104,  
United States

ECCV 2000 : European conference on computer vision, 6 (Dublin IRL)  
2000-06-26

Journal: Lecture notes in computer science, 2000, 1842 vol 2, 445-461  
Language: English

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Computer vision : Dublin, 26 June - 1 July 2000

Omnidirectional vision systems can provide panoramic alertness in surveillance, improve navigational capabilities, and produce panoramic **images** for multimedia. Catadioptric realizations of omnidirectional vision combine reflective surfaces and lenses. A particular class...  
... category. In this paper, we provide a unifying theory for all central catadioptric systems. We **show** that all of them are isomorphic to projective mappings from the sphere to a plane with a projection **center** on the perpendicular to the plane. Subcases are the stereographic projection equivalent to parabolic projection and the central planar projection equivalent to every conventional **camera**. We define a duality among projections of points and lines as well as among **different** mappings. This unification is novel and has a significant impact on the 3D interpretation of **images**. We present new invariances inherent in parabolic projections and a unifying calibration scheme from one view. We describe the implied advantages of catadioptric systems and explain why **images** arising in central catadioptric systems contain more information than **images** from conventional **cameras**. One example is that intrinsic calibration from a single view is possible for parabolic catadioptric...

English Descriptors: Geometrical model; **Image** recognition; **Pattern** recognition; Artificial vision; Intelligent robot; Calibration

French Descriptors: Modele geometrique; Reconnaissance **image** ;  
Reconnaissance forme; Vision artificielle; Robot intelligent; Etalonnage

Spanish Descriptors: Modelo geometrico; Reconocimiento **imagen** ;  
Reconocimiento patron; Vision artificial; Robot inteligente; **Contraste**

22/3,K/27 (Item 4 from file: 144)

DIALOG(R)File 144:Pascal

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12348363 PASCAL No.: 95-0590265

Determination of horizontal and vertical structure of an unusual  
pattern of short period gravity waves imaged during ALOHA-93 :

**ALOHA/ANLC-93**

TAYLOR M J; FRITTS D C; ISLER J R

Utah State univ, space dynamics lab. and physics dep., Logan UT  
84322-4145, USA

Journal: Geophysical research letters, 1995, 22 (20) 2837-2840  
Language: English

Determination of horizontal and vertical structure of an unusual  
pattern of short period gravity waves imaged during ALOHA-93 :

**ALOHA/ANLC-93**

An all-sky **CCD imager** has been used to measure the properties of short period gravity waves present over the Hawaiian Islands during the ALOHA-93 campaign. Observations of emissions from four **different** altitudes provided a capability to describe the **vertical** as well as the

**horizontal** structure of the wave field. On several occasions during this campaign an unusual morphology wave **pattern** was **detected** that consisted of a group of small-scale waves oriented in the same direction. These...  
... usually observed in association with a larger scale gravity wave. This paper presents a preliminary **analysis** of data recorded on the night of 22 October during which both types of waves...

... altitude, consistent with a ducted wave motion. The spatial intensity and phase modulation of this **display** is indicative of interference between two waves with similar characteristics and slightly **different** propagation directions. The larger scale wave motion was observed to propagate perpendicular to the small...

English Descriptors: Thermosphere; Nightglow; **CCD** imaging; Gravity wave; Radar

French Descriptors: Thermosphere; **Luminescence** nocturne; Imagerie **CCD** ; Onde gravite; Radar

Spanish Descriptors: Termosfera; **Luminiscencia** nocturna; Imagenaria **CCD** ; Onda gravedad; Radar

**22/3,K/28** (Item 5 from file: 144)

DIALOG(R)File 144:Pascal

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12263883 PASCAL No.: 95-0493331

**Mid-infrared observations of the nucleus and dust of Comet P/Swift-Tuttle**  
FOMENKOVA M N; JONES B; PINA R; PUETTER R; SARMECANIC J; GEHRZ R; JONES T  
NASA Ames Research Center, MS 239-4, Moffett Field, California 94035-1000  
; Center for Astrophysics and Space Sciences, University of California San Diego, La Jolla, California 92093-0011; Center for Astrophysics and Space Sciences, University of California San Diego, La Jolla, California 92093-0011; Astronomy Department, University of Minnesota, 116 Church st. SE, Minneapolis, Minnesota 55455

Journal: Astronomical Journal, 1995-10, 110 (4) 1866-1874

Language: English

Copyright (c) 1995 American Institute of Physics

... pre-perihelion observations of comet P/Swift-Tuttle obtained with the UCSD mid-infrared astronomical **camera** on 12 nights in November 1992. The **images** were taken through a 1  $\mu$ m wide filter **centered** at 11.65  $\mu$ m. During the observing run, the heliocentric distance decreased from 1...

...geocentric distance increased from 1.16 to 1.33 AU. The spatial scale of the **images** was 700-800 km per pixel. In addition, photometric data at wavelengths between 3.6 and 18.5  $\mu$ m were obtained on one night. The infrared **images** cover the cometary activity on time scales from hours to weeks and reveal large **changes** in the overall morphology of the coma. From periodic **changes** in the jet **patterns** we **determined** the period of nuclear rotation of 67.5\*+.or-.\*0.4 h. Photometry indicates that...

... rate varied with the heliocentric distance as  $R^{SUP - SUP 6 SUP . SUP 3}$  and **displayed** similar 40% variation with the rotational phase. Two major jets were present in the **images** obtained on November 07-17, and a third area became active on November 24-29...

...1741 (1981)) from the data on the P/Swift-Tuttle apparition in 1862. The

radial **brightness** profiles suggest the radius of the nucleus is 15\*+.or.-.\*3 km. This implies that...

English Descriptors: **Experimental study** ; Cometary nuclei; Comets;  
Cosmic dust; Effective temperature; Jets; Mass loss; Mass; Morphology;  
Photometry; Rotation

French Descriptors: Etude **experimentale** ; 9585K; 9650G; Noyau cometaire;  
Comete; Poussiere cosmique; Temperature effective; Jet; Perte masse;  
Masse; Morphologie; Photometrie...

22/3,K/29 (Item 6 from file: 144)

DIALOG(R)File 144:Pascal

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12247702 PASCAL No.: 95-0472403

**2D feature tracking algorithm for motion analysis**

SRIVASTAVAN KRISHNAN; RAVIV D

Florida Atlantic univ., robotics cent. and dep. electrical eng., Boca  
Raton FL 33431, USA

Journal: Pattern recognition, 1995, 28 (8) 1103-1126

Language: English

**2D feature tracking algorithm for motion analysis**

In this paper, we describe a local-neighborhood pixel-based adaptive algorithm to track **image** features, both spatially and temporally, over a sequence of monocular **images**. The algorithm assumes no a priori knowledge about the **image** features to be tracked, or the relative motion between the **camera** and the three dimensional (3D) objects. The features to be tracked are selected by the...

... to the peaks of a 'correlation surface' constructed from a local neighborhood in the first **image** of the sequence to be **analysed**. Any kind of motion, i.e., 6 DOF (translation and rotation), can be tolerated keeping...

... efficient predictive tracking over multiple frames. Trajectories of features on multiple objects can also be **computed**. The algorithm accepts a slow, continuous **change** of **brightness** D.C. level in the pixels of the feature. Another important aspect of the algorithm is the use of an adaptive feature matching threshold that accounts for **change** in relative **brightness** of neighboring pixels. As applications of the feature tracking algorithm, and to test the accuracy of the tracking, we **show** how the algorithm has been used to extract the **Focus** of Expansion (FOE) and to **compute** the time-to-contact using real **image** sequences of unstructured, unknown environments. In both applications information from multiple frames is used.

English Descriptors: Adaptive algorithm; Tracking; **Image** processing;  
**Image** sequence; Monocular vision; **Pattern** extraction; **Brightness**

French Descriptors: Algorithme adaptatif; Pistage; Traitement **image** ;  
Sequence **image** ; Vision monoculaire; Extraction forme; Brilliance

Spanish Descriptors: Algoritmo adaptativo; Rastreo; Procesamiento **imagen** ;  
Secuencia **imagen** ; Vision monocular; Extraccion forma; Brillantez

?

29/3,K/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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6658690 INSPEC Abstract Number: B2000-09-2550G-009

**Title: Characterization of sub-0.18-  $\mu$ m critical dimension pattern collapse for yield improvement**

Author(s): Zhong, T.X.; Gurer, E.; Lee, E.C.; Bai, H.; Gendron, B.; Krishna, M.S.; **Reynolds, R.M.**

Author Affiliation: Track Div., Silicon Valley Group, San Jose, CA, USA

Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.3882 p.158-68

Publisher: SPIE-Int. Soc. Opt. Eng,

Publication Date: 1999 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

SICI: 0277-786X(1999)3882L:158:CCDP;1-S

Material Identity Number: C574-1999-344

U.S. Copyright Clearance Center Code: 0277-786X/99/\$10.00

Conference Title: Process, Equipment, and Materials Control in Integrated Circuit Manufacturing V

Conference Sponsor: SPIE

Conference Date: 22-23 Sept. 1999 Conference Location: Santa Clara, CA, USA

Language: English

Subfile: B

Copyright 2000, IEE

**Title: Characterization of sub-0.18-  $\mu$ m critical dimension pattern collapse for yield improvement**

Author(s): Zhong, T.X.; Gurer, E.; Lee, E.C.; Bai, H.; Gendron, B.; Krishna, M.S.; **Reynolds, R.M.**

Abstract: In this **study**, we demonstrate that surface-resist interface interactions are becoming more crucial in DUV lithography as...

... feature and the substrate. Considerable yield improvements in a manufacturing environment can be realized if **pattern** collapsing of smaller features is prevented by means of proper priming. In addition, next generation...

... chemical consumption as environmental health and safety (EHS) requirements are better appreciated in the marketplace. **HMDS** is not only highly toxic but it is also a prime threat to CD control...

... 18 micrometer design rules. The by-product NH/sub 3/ created during priming process with **HMDS** can neutralize the photo-acid created during the exposure step. There are many technical opportunities in this usually neglected priming process step. In this **study**, we characterized sub-0.18 micrometer isolated line **pattern** collapse for UV5 resist on bare Si wafers by using a scanning electron microscope (SEM). The smallest line width printability on wafers primed with different contact angles was **analyzed** by using both top down and cross section SEM **images**. Our results **show** that there is a strong effect of substrate surface and film interface interaction on device yields. More specifically, there is a strong correlation between **pattern** integrity of features down to 115 nm and vapor prime process conditions. In general, wafers...

... required for sub-0.1 micrometer design rule for improved yield. An alternative material to **HMDS** will probably be needed due to more stringent future requirements and weak bonding characteristics of **HMDS**.



Based on the result of this **study**, we propose an **HMDS** consumption reduction scheme for line-widths above 0.2 micrometer. There are many priming-related...

Identifiers: sub-0.18-  $\mu$ m critical dimension **pattern** collapse...

... **HMDS** consumption reduction scheme

**29/3,K/2** (Item 2 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5458601 INSPEC Abstract Number: B9702-7630-031

**Title: A characterization of IHADSS performance**

Author(s): **Rash, C.E. ; Harding, T.H. ; Beasley, H.H. ; Martin, J.S.**

Author Affiliation: US Army Aeromedical Res. Lab., Fort Rucker, AL, USA

Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.2735 p.164-80

Publisher: SPIE-Int. Soc. Opt. Eng,

Publication Date: 1996 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

SICI: 0277-786X(1996)2735L:164:CIP;1-1

Material Identity Number: C574-96187

U.S. Copyright Clearance Center Code: 0 8194 2116 2/96/\$6.00

Conference Title: Head-Mounted Displays

Conference Sponsor: SPIE

Conference Date: 8-10 April 1996 Conference Location: Orlando, FL, USA

Language: English

Subfile: B

Copyright 1997, IEE

**Title: A characterization of IHADSS performance**

Author(s): **Rash, C.E. ; Harding, T.H. ; Beasley, H.H. ; Martin, J.S.**

Abstract: The performance of the **Integrated Helmet Display Sighting System (IHADSS)** used in the AH-64 Apache helicopter has been **evaluated**. Measured parameters included physical and optical eye relief, exit pupil size and position, **field -of- view**, **luminance** range, transmittance and reflectance characteristics, and static and temporal response. The purpose of the **evaluation** was to provide a performance baseline for **comparison** with future helmet mounted **display** designs.

Descriptors: aircraft **displays** ; ...

...cathode-ray tube **displays** ;

Identifiers: **integrated helmet display sighting system** ; ...

... **IHADSS** performance...

... **field -of- view** ; ...

... **luminance** range...

...helmet mounted **display** designs...

... **image** quality...

... **contrast** ratios...

... **grey** levels

29/3,K/3 (Item 1 from file: 6)

DIALOG(R)File 6:NTIS

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2184312 NTIS Accession Number: ADA383159/XAB

**Design of Interface and Algorithms for an Image Quality Tester**

(Final rept)

**Hsieh, S. ; Rash, C. E. ; Mora, J. C. ; Harding, T. H. ; Beasley, H. H.**

Army Aeromedical Research Lab., Fort Rucker, AL.

Corp. Source Codes: 026909000; 404578

Report No.: USAARL-2000-26

Aug 2000 76p

Languages: English

Journal Announcement: USGRDR0103

Prepared in collaboration with Texas A&M Univ., College Station, TX, and Universal Energy Systems (UES), Inc., Dayton, OH.

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NTIS Prices: PC A06/MF A01

**Design of Interface and Algorithms for an Image Quality Tester**

**Hsieh, S. ; Rash, C. E. ; Mora, J. C. ; Harding, T. H. ; Beasley, H. H.**

... were to design and integrate a communications interface and software procedures (i.e., algorithms) for **image** processing for a helmet mounted **display** ( **HMD** ) **image** tester. This is a continuation of a previous effort entitled 'Preliminary Design of an **Image** Tester for Helmet Mounted **Display**'. The proposed **image** quality tester consists of hardware (including camera, lenses, sensors, and fixtures) and software for **image** capture and **analysis**. The interface and **image** processing algorithms are essential components of this system. The interface bridges the gap between hardware devices and software applications, and thus makes information integration possible. The algorithms process, **analyze**, and characterize the test **pattern** information generated by an **HMD**.

Descriptors: Software engineering; \*Helmet mounted **displays**; \* **Image** processing; Test equipment; **Computer** programs; **Computer** algorithms; **Computer** aided design; Cameras; Camera lenses; **Detectors**; Fixtures; **Computers**; Interfaces; Data acquisition

Identifiers: **Image** quality tester; Communication interfaces; NTISDODXA

29/3,K/4 (Item 2 from file: 6)

DIALOG(R)File 6:NTIS

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2153283 NTIS Accession Number: ADA371607/XAB

**Preliminary Design of an Image Quality Tester For Helmet-Mounted Displays**

(Final rept)

**Hsieh, S. ; Rash, C. E. ; Harding, T. H. ; Beasley, H. H.**

Army Aeromedical Research Lab., Fort Rucker, AL.

Corp. Source Codes: 026909000; 404578

Report No.: USAARL-2000-08

Nov 1999 50p

Languages: English

Journal Announcement: USGRDR0008

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NTIS Prices: PC A04/MF A01

**Preliminary Design of an Image Quality Tester For Helmet-Mounted Displays**

**Hsieh, S. ; Rash, C. E. ; Harding, T. H. ; Beasley, H. H.**

Helmet-mounted displays ( HMDs ) provide essential pilotage and fire control imagery information for pilots. However, image quality testers for HMD field performance validation do not currently exist. This research employed techniques from imaging analysis and interpretation, and computer -aided design/ computer -aided manufacturing (CAD/CAM) to investigate a preliminary design for a portable HMD image tester. For this study , a charged couple device (CCD) camera and lens were selected. Hardware characteristics such as viewing angles in horizontal and vertical positions, dynamic working range at day and night, pixel resolution, focal length, and aperture ratio were evaluated with regard to HMD functionality. Experiments to evaluate camera sensitivity and test pattern merits were conducted using a programmable micro positioning system, CCD camera, optical fixtures and benches. Next, the relative ratio among features within the image profile was established and an ideal image profile and evaluation criteria were established based on the experimental results. Third, image processing algorithms and techniques, such as edge detection , were developed and applied in test pattern feature.

Descriptors: Computer programming; \*Helmet mounted displays ; Algorithms; Image processing; Angles; Position(Location); Ratios; Detection ; Manufacturing; Computer aided design; Validation; Edges; Pilots; Field tests ; Test methods; Test equipment; Sensitivity; Profiles; Quality; Length; Position finding; Images ; Cameras; Patterns ; Night; Vision; Dynamic range

Identifiers: Image quality testers; Da336445; NTISDODXA

29/3,K/5 (Item 3 from file: 6)

DIALOG(R)File 6:NTIS

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2145723 NTIS Accession Number: ADA368601/XAB

**Effect of Helmet Mounted Display Field -of- View Configurations on Target Acquisition**

(Final rept)

**Klymenko, V. ; Harding, T. H. ; Beasley, H. H. ; Martin, J. S.**

Army Aeromedical Research Lab., Fort Rucker, AL.

Corp. Source Codes: 026909000; 404578

Report No.: USAARL-99-19

Sep 1999 35p

Languages: English

Journal Announcement: USGRDR0003

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located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

NTIS Prices: PC A04/MF A01

**Effect of Helmet Mounted Display Field -of- View Configurations on Target Acquisition**

**Klymenko, V. ; Harding, T. H. ; Beasley, H. H. ; Martin, J. S.**

*on order*

Monocular helmet-mounted **displays** ( **HMDs** ) currently are used in the Army's AH-64 Apache helicopter. A partial binocular overlap **HMD** is slated for use with the Army's new RAH-66 Comanche helicopter. The size of the binocular **HMD** 's **field-of-view** (FOV) is the size of the visual world available to the Army helicopter pilot via an imaging sensor. The Comanche **HMD** presents the FOV in a partial binocular overlap configuration rather than a full binocular overlap configuration. In this latter configuration, the **images** presented to both eyes, the monocular fields, present identical views of the visual world where...

... we briefly describe the relevant differences between normal unaided vision and vision with a binocular **HMD** . Then, we cover our recent empirical findings on the sensory and perceptual effects of this type of **display** and how visual performance might be affected. Any deficits in performance need to be quantified before they are manifested on the battlefield. This **study** investigates how target acquisition is affected by implementing various configurations of the **HMD** 's binocular **display** .

Descriptors: Target acquisition; \*Helicopters; \*Configurations; \*Helmet mounted **displays** ; Global; **Detectors** ; Battlefields; Interfaces; Pilots; Operational effectiveness; **Display** systems; **Images** ; Vision; Visual perception; Overlap; Perception; Senses(Physiology); Army aircraft; Binoculars

Identifiers: **Hmds** (Helmet-mounted **displays** ); Ah-64 aircraft; NTISDODXA

29/3,K/6 (Item 4 from file: 6)

DIALOG(R)File 6:NTIS

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2073481 NTIS Accession Number: AD-A342 921/4/XAB

**Optical and Biodynamic Evaluation of the Helmet Integrated Display Sight System (HIDSS) for the RAH-66 Comanche Development and Validation Program Phase**  
(Final rept)

**Harding, T. H. ; Beasley, H. H. ; Martin, J. S. ; Rash, C. E. ; McLean, W. E.**

Army Aeromedical Research Lab., Fort Rucker, AL.

Corp. Source Codes: 026909000; 404578

Report No.: USAARL-RN-98-22

Mar 98 42p

Languages: English

Journal Announcement: GRAI9816

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NTIS Prices: PC A04/MF A01

**Optical and Biodynamic Evaluation of the Helmet Integrated Display Sight System (HIDSS) for the RAH-66 Comanche Development and Validation Program Phase**

**Harding, T. H. ; Beasley, H. H. ; Martin, J. S. ; Rash, C. E. ; McLean, W. E.**

The Development and Validation phase **Helmet Integrated Display Sight System** (HIDSS) for the RAH-66 Comanche was **evaluated** . The HIDSS consists of an **integrated helmet** , a helmet-mounted **display** consisting of a right and a left multifunction **display** , a helmet tracking **system** , a boresight reticle unit, and the associated electronics. The **evaluation** consisted of biodynamic, optical, and visual performance measures. Measurements **show** that the HIDSS fails to provide acceptable weight and

*made*

**center** of mass performance. At a value of 2.62 kg, the head supported weight exceeds the maximum allowable value. **Image** quality was acceptable except for the areas of **contrast** ratio (shades of **gray**), **luminance** uniformity, and modulation transfer function. Additional human factors engineering concerns surfaced during the **evaluation**. These included restrictions on pilot head movements due to cathode ray tube size and location...

Descriptors: Optical equipment components; \*Helmet mounted **displays**; \*Helmets; Electronics; Transfer functions; Pilots; Tracking; Human factors engineering; **Display** systems; Configurations; Visual perception; Head(Anatomy); Cathode ray tubes; **Luminance**; Reticles

Identifiers: Hidss( **Helmet integrated display sight system** ); NTISDODXA

29/3,K/7 (Item 5 from file: 6)

DIALOG(R)File 6:NTIS

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1521033 NTIS Accession Number: AD-A223 226/2

**Human Factors and Safety Considerations of Night Vision Systems Flight Using Thermal Imaging Systems**

(Final rept)

Rash, C. E. ; Verona, R. W. ; Crowley, J. S.

Army Aeromedical Research Lab., Fort Rucker, AL.

Corp. Source Codes: 026909000; 404578

Report No.: USAARL-90-10

Apr 90 33p

Languages: English

Journal Announcement: GRAI9020

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NTIS Prices: PC A03/MF A01

Rash, C. E. ; Verona, R. W. ; Crowley, J. S.

...visual parameters and compromise others. Examples of visual parameters which are traded off include acuity, **field -of- view**, spectral sensitivity, and depth perception. Cost, weight, and size constraints also lead to compromises between...

... characteristics differing from those provided by unaided vision.

Keywords: Night vision, Forward looking infrared (FLIR), **Integrated helmet and display sighting system** (IHADSS), Pilot's Night Vision System (PNVS), Thermal imaging. (JES)

Descriptors: Night vision devices; Acuity; Adverse conditions; Costs; **Detectors**; Flight; Forward looking infrared systems; Heat; Helmets; Human factors engineering; Infrared **images**; Integrated systems; Low light levels; Night flight; Night vision; Obscuration; Parameters; Pilots; Sensitivity; Space perception...

29/3,K/8 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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04515841 E.I. No: EIP96103351365

**Title: Human factors evaluation of visual field -of- view effects of partial binocular overlap designs in helmet-mounted displays**

Author: Klymenko, Victor; **Rash, Clarence E.**

Corporate Source: UES, Inc, Fort Rucker, AL, USA

Conference Title: Proceedings of the 1995 51st Annual Forum. Part 2 (of 3)

Conference Location: Fort Worth, TX, USA Conference Date: 19950509-19950511

E.I. Conference No.: 45376

Source: Annual Forum Proceedings - American Helicopter Society v 2 1995. American Helicopter Soc, Alexandria, VA, USA. p 1450-1465

Publication Year: 1995

CODEN: PFASDL ISSN: 0733-4249

Language: English

**Title: Human factors evaluation of visual field -of- view effects of partial binocular overlap designs in helmet-mounted displays**

Author: Klymenko, Victor; **Rash, Clarence E.**

**Abstract:** The **Helmet Integrated Display Sight System (HIDSS)** is a new binocular **helmet-mounted display (HMD)** under development by the U.S. Army for the RAH-66 Comanche helicopter. The HIDSS design uses a partial binocular overlap **field-of-view (FOV)** instead of a full overlap FOV where each of the two eyes sees the entire FOV. A full overlap FOV would have been an ideal optical **display** design configuration; however, technical and human factor considerations have limited the size of the FOV for each eye. The partial overlap **display** design overcomes this limitation by sharing the larger sensor FOV between the two eyes. Here a portion of the outside scene is **displayed** to both eyes, and each eye independently sees an additional portion. This has led to a number of visual human factor issues including the effect of this **display** design on the appearance of the FOV, on target **detectability** and on the binocular alignment of the two **images**. We review ongoing work conducted in our lab on the perceptual and performance effects of...

**Descriptors:** Instrument **displays**; Helicopters; Human engineering; **Evaluation**; Design; Optical devices; **Image** sensors; Imaging systems; **Image** intensifiers (electron tube); Military applications

**Identifiers:** **Helmet integrated display sight systems**; Optical **display** design configuration; Binocular **helmet mounted display**; Visual human factor; **Field of view**; Binocular overlap design; Full overlap **field of view**; Target **detectability**; Binocular alignment; Night vision

29/3,K/9 (Item 1 from file: 144)

DIALOG(R) File 144:Pascal

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14478792 PASCAL No.: 00-0140369

**Characterization of sub-0.18  $\mu$ m critical dimension pattern collapse for yield improvement**

**Process, equipment, and materials control in integrated circuit manufacturing V : Santa Clara CA, 22-23 September 1999**

TOM ZHONG; GURER E; LEE E; HONG BAI; GENDRON B; KRISHNA M; **REYNOLDS R**  
TOPRAC Anthony J, ed; DANG Kim, ed

Silicon Valley Group, Track Division, 541 E. Trimble Rd., San Jose, CA 95131, United States

International Society for Optical Engineering, Bellingham WA, United States.

Process, equipment, and materials control in integrated circuit manufacturing. Conference, 5 (Santa Clara CA USA) 1999-09-22

Journal: SPIE proceedings series, 1999, 3882 158-168

Language: English

*on order*

**Characterization of sub-0.18  $\mu$  m critical dimension pattern collapse for yield improvement**

TOM ZHONG; GURER E; LEE E; HONG BAI; GENDRON B; KRISHNA M; **REYNOLDS R**

In this **study**, we demonstrate that surface-resist interface interactions are becoming more crucial in DUV lithography as...

... feature and the substrate. Considerable yield improvements in a manufacturing environment can be realized if **pattern** collapsing of smaller features is prevented by means of proper priming. In addition, next generation...

... chemical consumption as environmental health and safety (EHS) requirements are better appreciated in the marketplace. **HMDS** is not only highly toxic but it is also a prime threat to CD control...

...  $\mu$  m design rules. The by-product NH SUB 3 created during priming process with **HMDS** can neutralize the photo-acid created during the exposure step. There are many technical opportunities in this usually neglected priming process step. In this **study**, we characterized sub-0.18  $\mu$  m isolated line **pattern** collapse for UV5 resist on bare Si wafers by using a scanning electron microscope (SEM). The smallest line width printability on wafers primed with different contact angles was **analyzed** by using both top down and cross section SEM **images**. Our results **show** that there is a strong effect of substrate surface and film interface interaction on device yields. More specifically, there is a strong correlation between **pattern** integrity of features down to 115nm and vapor prime process conditions. In general, wafers with...

...for sub-0.1  $\mu$  m design rule for improved yield. An alternative material to **HMDS** will probably be needed due to more stringent future requirements and weak bonding characteristics of **HMDS**. Based on the result of this **study**, we propose an **HMDS** consumption reduction scheme for line-widths above 0.2  $\mu$  m. There are many priming...

...English Descriptors: materials; Lithography; Photoresist; Wafer; Silicon; Scanning electron microscopy; Contact angle; Cross section; Adhesion; Critical dimension; **Pattern** (Microelectronics); DUV lithography

?

Set	Items	Description
S1	18	(HAT OR HEAD OR HELMET) (3N) MOUNT? (3N) (CAMERA? OR LENS) OR - HMDS OR HMD
S2	0	INTEGRAT? (3N) HELMET (3N) DISPLAY (3N) SIGHT? (3N) SYSTEM? OR IHA-DSS OR INTEGRAT? (3N) HELMET (3N) UNIT
S3	11002	IMAGE??
S4	11173	DISPLAY? OR OUTPUT OR SHOW
S5	2264	(INPUT OR CAPTUR? OR ENTER? OR RECALL?) AND S3
S6	1068	(TESTS OR TESTING OR TESTED OR TESTED OR EVALUAT? OR ASSES? OR DETERMIN? OR CALCULAT? OR COMPUT???? OR DETECT? OR COMPAR? OR ANAL? OR STUDY OR EXPERIMENT?) AND S3 AND S4
S7	243	(DIFFERENCE? OR CHANG? OR OFFSET OR DISSIMILARITY OR UNLIK-E? OR DIFFERENT) AND S6
S8	1835	PATTERN? OR TREND() FORMATION
S9	891	BRIGHTNESS OR LUMIN? OR CONTRAST?
S10	15815	ANGULAR? OR CENTER? OR FOCUS? OR HORIZONT? OR VERTICAL? OR GRAY OR GREY OR BOUNDAR? OR FIELD(2N) VIEW OR BITMAP
S11	1510	CAMERA?? OR CCD OR CCD(3N) CAMERA?
S12	10	FLIR OR FORWARD() LOOK? (') (IR OR INFRARED) (3N) RADAR?
S13	32	AU=(RASH, C? OR HARDING, T? OR HSIEH, S? OR BEASLEY, H? OR MARTIN, J? OR REYNOLDS, R? OR DILLARD, R? OR RASH C? OR HARDING T? OR HSIEH S? OR BEASLEY H? OR MARTIN J? OR REYNOLDS R? OR DILLARD R?)
S14	2	S1 AND S6
S15	1	RD S14 (unique items)
S16	0	S7 AND S8 AND S9 AND S10
S17	50	S7 AND (S8 OR S9 OR S10)
S18	0	S17 AND S12
S19	0	S17 AND S13
S20	0	S13 AND S7
S21	21	S17 AND PY=2001:2004
S22	29	S17 NOT S21
S23	24	RD S22 (unique items)
S24	16	S1 NOT (S14 OR S17)
S25	1	S24 AND PY=2001:2004
S26	15	S24 NOT S25
S27	14	RD S26 (unique items)



15/3,K/1

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00119531

DOCUMENT TYPE: Review

PRODUCT NAMES: Virtual Reality (830334)

TITLE: 'Mixed Reality' R&D: Fusing 3-D Graphics and Imaging for Real  
Com...

AUTHOR: Robinson, Laura

SOURCE: Advanced Imaging, v14 n7 p28(3) Jul 1999

ISSN: 1042-0711

HOME PAGE: <http://www.advancedimagingmag.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20000130

...used by virtual reality researchers to describe the mixing of Augmented  
Virtuality (AV) which melds **images** of real objects into virtual  
environments, and Augmented Reality (AR), which integrates virtual objects  
into...

...and the 'RV Border Guards Game' for entertainment. CyberMirage is a  
virtual mall that can **display** real inventory, and MRSI is **experimenting**  
with a multi-user version. In MR Living Room, participants wearing  
head-mounted **displays** ( **HMDs** ) select and place virtual articles, and,  
users in a shared space have independent yet synchronized...

...being considered. RV Border Guards games has three players surrounding a  
games table, and wearing **HMD** 's defend the border between the virtual and  
real worlds.

DESCRIPTORS: 3D Graphics; **Image** Processing; Simulation; Virtual Reality  
?

23/3,K/1

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00127434

DOCUMENT TYPE: Review

PRODUCT NAMES: Adobe Illustrator (017036); AutoCAD (739031); ArcView (348937)

TITLE: 2-D and 3-D Graphics

AUTHOR: Lais, Sami

SOURCE: Computerworld, v34 n50 p80(1) Dec 11, 2000

ISSN: 0010-4841

HOME PAGE: <http://www.computerworld.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20030330

...Institute's ArcView are highlighted in a discussion of 3D graphics, which are defined as ' **images** ' that, though shown on a 2D **computer** screen, can be manipulated in three dimensions.' The viewer can 'move' around the **image** and **change** the apparent viewpoint as if it were a real object in space. A 2D **image** can seem to have weight, reflectivity, texture, and depth, but it presents a single view, frozen in time and space.' 2D applications are created with 2D applications that **output** either bitmapped or vector **images** . Adobe Photoshop is a 2D **bitmap** application, while Adobe Illustrator is a vector graphics application that describes lines mathematically rather than visually. The **image** will look the same regardless of zoom level used to **display** it. 3D **images** are vector format drawings that are defined in terms of height, width, and depth, and...

...2D drawings to 3D representations for use in virtual walkthrough demonstrations. 3D applications can automatically **change** shadows and reflectivity as light and materials **change** , and 3D is now also used in geographical information system (GIS) software. With animation, a...

...dimension' can be added to 3D, as in DaimlerChrysler's supercomputer-generated model for crash **testing** the PT Cruiser model.

DESCRIPTORS: 3D Graphics; AutoCAD; Draw; GIS; Graphics Tools; **Image** Processing

23/3,K/2

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00126252

DOCUMENT TYPE: Review

PRODUCT NAMES: Holography (843733)

TITLE: Virtually There: Holography's most intriguing applications...

AUTHOR: Forster, Barbara

SOURCE: Computerworld, v34 n40 p74(1) Oct 2, 2000

ISSN: 0010-4841

HOME PAGE: <http://www.computerworld.com>

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

REVISION DATE: 20020923

A brief discussion of holography--a **computing** technology that creates virtual 3D environments-- **focuses** on applications for home use, office use, industrial use, military use, and medicine. Fiber optic technology, which allows MIT, for instance, to store 100,000 **different** photos or digital pages (1TB of information), is making holographic data storage more practical. Fiber...

...Newer technology also transports information more quickly. Industrial uses include quality control in manufacturing and **testing** for fractures using such techniques as holographic nondestructive **testing**. Holography is highly flexible and is therefore suitable for many other industrial design applications. Holograms, or 'heads up' **displays** (which can give pilots important information as they look through the windows of their cockpits...

...earliest users of improved holograms. With holograms, parallax (fully 3D) views allow users to manipulate **images** and to see multiple perspectives as if the object were really there. Complex anatomical **images** are vivid and defined, which means physicians will be able to more precisely interpret them.

DESCRIPTORS: 3D Graphics; Holography; **Image** Processing; Medical Diagnosis; National Defense; Simulation; Virtual Reality

23/3,K/3

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00124458 DOCUMENT TYPE: Review

PRODUCT NAMES: **Satellite** Images (842869); National Defense (830418)

TITLE: **Multi-spectral satellite imaging markets**

AUTHOR: Nelson, Lee J

SOURCE: Advanced Imaging, v15 n4 p36(2) Apr 2000

ISSN: 1042-0711

HOMEPAGE: <http://www.advancedimagingmag.com>

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

REVISION DATE: 20030330

PRODUCT NAMES: **Satellite** Images (

...multi-spectral satellite imaging markets emphasizes the increasing importance of space intelligence and multi-spectral **imagery** (MSI) in defense systems. Topics covered include experience in Bosnia, post-fusion, and **image** processing **changes**. BTG, an experienced provider of imaging systems, helped with peacekeeping efforts in Bosnia by delivering...

...commanders. For navigation, a global positioning satellite system (GPS) assisted in production of maps that **displayed** precise barricade separation lines. Ground personnel could see their exact positions, which represented a significant advantage since a corridor only about 4km wide defined **boundaries** among various forces being patrolled by American and other peacekeeping personnel. Advanced imaging systems use optically aligned sensors to allow acquisition of discrete **images** in a single payload. In an environment with multiple platforms, advanced geographical techniques are used. Therefore, useful **images** can be distributed instantly for use by each agency's application, which might include camouflage, concealment, deception, science, technology **assessment**, indication, warning, bomb damage **assessment**, or C4I (command, control, **computers**, and intelligence). Many new opportunities will emerge as contractors must meet stringent, dynamic needs. Private sector investments abound in the market for remotely sensed **image** acquisition, including investments in Aerial **Images**, Earth Watch, Orbital Sciences Corporation, and Space Imaging, among others.

DESCRIPTORS: GPS; **Image** Processing; Mapping; National Defense

23/3,K/4

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00122315 DOCUMENT TYPE: Review

PRODUCT NAMES: Adobe Photoshop (213756)

TITLE: **Pixels to Prepress: Optimizing Images for the Offset Printing Process**

AUTHOR: Paynter, Herb

SOURCE: Photo>Electronic Imaging, v43 n1 p62(6) Jan 2000

ISSN: 0146-0153

HOME PAGE: <http://www.peimag.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20010630

TITLE: **Pixels to Prepress: Optimizing Images for the Offset Printing Process**

Adobe Systems' Adobe Photoshop and **comparable image** editors are the best choice for making adjustments to scanned **images** in page layout software, such as QuarkXPress, InDesign, and PageMaker. QuarkXPress, InDesign, and PageMaker themselves...

...this purpose. Six important factors must be considered and parameters tuned for color and halftone **images**: resolution; highlight setting; darkest/shadow area; midtones; Unsharp Masking; and color balance. Instructions are provided that **show** how to keep neutral areas (grays and charcoals) totally neutral. Users begin by opening the...

...middle Eyedropper tool, setting R/G/B values to 127 each. An area of the **image** that should be neutral **gray** should be found and clicked. Topics covered include Imagesetter exposure; film processing; proofing; plate production...

DESCRIPTORS: Color Matching; Desktop Publishing; **Image** Processing; Page Composition; Photoshop; Scanners; Soft Proofing

23/3,K/5

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.

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00122003 DOCUMENT TYPE: Review

PRODUCT NAMES: CorelDRAW 9 Premium Color (701971)

TITLE: A Meeting of the Minds: ...Corel demonstrates its serious intent...

AUTHOR: Bielski, Lauren

SOURCE: Digital Imaging, p38(2) Dec 1999

ISSN: 1084-5119

HOME PAGE: <http://www.digitalimaging.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20000430

...dependable color that maintains color consistency across production devices and through the transition from digital **output** to printed **output**. CorelDRAW 9 Premium Color Edition now provides service bureaus, **output centers**, and professional designers with excellent control over color quality, says the executive VP of sales...

...to go further in differentiating itself by providing more intuitive, low-cost monitor and scanner **output** calibration. Integration with the ColorOpen Limited Edition product is an indisputable enhancement. Corel is also...

...products as Adobe Photoshop, Illustrator, MetaCreations' Painter, Encapsulated PostScript, and PDF. ColorOpen uses the Heidelberg **luminance** meter as a calibration device so that all in the **output** chain can have more confidence in the color produced. No two monitors represent color exactly alike, and color representation varies according to ambient lighting **changes** or the monitor's age. However, color profiling software is useful in creating a color profile that assists a device in compensating for the **difference** between color characteristics **output** in **comparison** to industry-standard color swatches.

DESCRIPTORS: Color Matching; Designers; Draw; Graphics Tools; IBM PC & Compatibles; **Image** Processing; PostScript; WYSIWYG

23/3,K/6

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.

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00121539 DOCUMENT TYPE: Review

PRODUCT NAMES: Medical Diagnosis (830362); Image Processing (830196)

TITLE: Bigger, Better Ultrasound Volumes: A technique for mosaicing 3D...

AUTHOR: Mahoney, Diana Phillips

SOURCE: Computer Graphics World, v22 n12 p18(2) Dec 1999

ISSN: 0271-4159  
HOMEPAGE: <http://www.cgw.com>

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

REVISION DATE: 20000330

...**PRODUCT NAMES:** 830362); Image Processing...

...working in conjunction with researchers at the University of Tel Aviv uses mosaic 3D ultrasound **images** in a visualization system that can optimize use of ultrasound imaging while reducing the noise...

...The technique automatically aligns and registers parts of ultrasound scans that are acquired from slightly **different** viewpoints but have a substantial overlap. The technique then uses a method similar to morphing ...

...used for treatment planning and physician education, generally depend on reconstructions of sequences of 2D **images** or 'slices' of patient anatomy acquired with **computed** Tomography (CT) or magnetic resonance imaging (MRI). With the MedSim/University of Tel Aviv method, groups of transformed volumes are stitched together in a mosaic to **show** a large scanned area. To reduce expected variability of ultrasound data, the system employs a one-of-a-kind **image**-based registration method that directly observes **gray** values of **image** pixels instead of trying to interpret the values. Volumes are **compared** and registered based on information in each pixel. A culling method removes from consideration all pixels that do not have a counterpart in the other **image** or that are **determined** to have no useful information by the system, which uses statistical data from the pixel's neighborhood to make the **evaluation**. According to developers, the method is useful for any type of noisy imaging.

DESCRIPTORS: Graphics for Science & Engineering; **Image** Processing;  
Medical Diagnosis; Medical Surgery

23/3,K/7

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00120736 DOCUMENT TYPE: Review

**PRODUCT NAMES:** OpenVison (781428); EarthCube (781436)

**TITLE:** fields of dreams: VR Proves Its Weight in (Black) Gold for Locatin...

**AUTHOR:** Moltenbrey, Karen  
**SOURCE:** Computer Graphics World, v22 n9 p33(5) Sep 1999  
**ISSN:** 0271-4159  
**HOMEPAGE:** <http://www.cgw.com>

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

REVISION DATE: 20000228

...more efficient method for viewing 3D seismic data and chose immersive 3D visualization to view **pattern** recognition that allows interpretation of 5,000 lines of cross-sectional seismic data. Arco's multiperson VR environment clearly shows a **gray** salt dome in the Gulf of Mexico that indicates the possible presence of oil, and Statoil used OpenVision software from Landmark Graphics to **show** a well path in an immersive setting with seismic, geological, and petrophysical data. OpenVision allows Statoil to **change** subsurface features and reservoir values to test working hypotheses. Landmark Graphics' Earthcube is a commercial package that can produce seismic **images**. When oil companies migrate from 2D to 3D large-scale visualization, researchers can see and interact with **images** created from mathematical volume data sets. Various programs automatically color in data points of similar...

DESCRIPTORS: 3D Graphics; Graphics for Science & Engineering; Oil & Gas Exploration; Petroleum Industry; Seismic **Analysis** ; Simulation; Virtual Reality

23/3,K/8

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00120071 DOCUMENT TYPE: Review

PRODUCT NAMES: Cool i-Mergence 5.0 (777072); IntelliStor/QM (777081); Synergy/2000 Reports Manager (777099); Emedia (689653)

TITLE: New Power in COLD/ERM

AUTHOR: Puccinelli, Bob Safdie, Elias

SOURCE: Imaging & document solutions, v8 n7 p45(7) Jul 1999

ISSN: 1083-2912

HOME PAGE: <http://www.imagingmagazine.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20030730

1 Computron 's Cool i-Mergence 5.0, Microbank's IntelliStor QM, Optical **Image** Technology's OptiFICHE, MacroSoft's Synergy 2000, and Optika's Emedia are highlighted in a discussion of the evolution of COLD/ERM ( **Computer Output** to Laser Disc/Enterprise Report Management). COLD/ERM is evolving quickly, but users do not necessarily agree on how the technology is **changing**. However, they do agree on several directions. For instance, report archiving is still an important...

...delivery models. Still others believe that COLD/ERM will be fully and transparently integrated with **vertical** and line-of- business applications. COLD/ERM product buyers have to make the effort to understand how their own needs have **changed** in order to divine the most appropriate solution directions. COLD/ERM **output** can now be in HTML format, and all vendors in a buyers guide provide some...

DESCRIPTORS: Archiving; CD-R; **Image** Storage; Intranets; Optical Discs; Report Generators

23/3,K/9

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00117184 DOCUMENT TYPE: Review

PRODUCT NAMES: MITRE IQM (764027)

TITLE: Novel software performs image -quality evaluation  
AUTHOR: Wilson, Andrew  
SOURCE: Vision Systems Design, v4 n3 p9(1) Mar 1999  
ISSN: 1089-3709  
HOMEPAGE: <http://www.vision-systems-design.com>

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

REVISION DATE: 19991030

TITLE: Novel software performs image -quality evaluation

...MITRE IQM was developed with the support of the U.S. Air Force Electronic Systems Center and is a digital image quality measurement (IQM) system that does not require the imaging of a specific pattern or target, an unchanging scene, or a reference image. It also does not depend on prediction of quality. The IQMs are available on the Web, and are garnered directly from computations on digital images displayed to the software, without a requirement to search for or select particular scene components. System developers can therefore determine if reconnaissance imagery offers enough quality to meet the needs of particular intelligence project, or diagnostics can be done from acquired x-ray images. MITRE's IQM software uses an invariance of shape of a scene's spatial frequency power spectrum from scene to scene. Therefore, quality assessment can be done directly from acquired images and the need for test targets can be eliminated in many instances, says Norman B. Nill, lead Imagery engineer for MITRE. IQM software begins by computing the power spectrum via a fast-Fourier-transform (FFT) technique. The power spectrum is filtered...

...with a spatial frequency response function; the latter is applied as a filter to the image spectrum, to product IQM values that closely track human perceptual response to quality changes from image to image.

DESCRIPTORS: Data Acquisition; Graphics for Science & Engineering; Image Processing; Machine Vision; Pattern Recognition; Quality Assurance

23/3,K/10

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00114975 DOCUMENT TYPE: Review

PRODUCT NAMES: Adobe Premiere 3.0 (350591); QuickTime 3.0 (463701); EditDV 1.5 (676667); cleaner 3.1 (052388)

TITLE: The Case of the Pixilated Pixels: Square vs. Rectangular Pixels in...

AUTHOR: Reid, Dan  
SOURCE: Photo>Electronic Imaging, v42 n2 p50(5) Feb 1999  
ISSN: 0146-0153



HOMEPAGE: <http://www.peimag.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20021130

Digital video files can be created and **displayed** in two common formats: square or rectangular pixelation. Most software and hardware are designed for...

...601 or CCIR-601), and MPEG-1 formats are encoded with rectangular pixels. The author **focuses** on applications that handle DV files using Apple's QuickTime 3.0. If a rectangular-pixel **image** is **displayed** on a square-pixel monitor, there will be distortion, with the **image** stretched on the left and right sides. Several software packages handle the **difference** between rectangular and square pixelation in **different** ways. Media Cleaner Pro 3.1 has 'robust' support for nonsquare pixel files. Users can adjust the settings so rectangular-pixel files are **displayed** correctly on square-pixel monitors. Adobe Premiere 3.0 uses the QuickTime 3.0 technology...

...interpret MPEG-1 files correctly on-screen, but CCIR-601 files do not render or **display** correctly in Premiere. Adobe After Effects 3.1 supports CCIR-601, which the application interprets...

...not be as dependable when compression is greater than 50 percent. Terran Interactive uses a **different** algorithm for compression, and **displays images** and videos more crisply. **Images** in Adobe Photoshop, which uses square-pixel technology, must be distorted to render CCIR-601...

...COMPANY NAME: 394173); Apple **Computer** Inc...

DESCRIPTORS: Digital Video; **Image** Processing; Multimedia; Photoshop; Standards

23/3,K/11

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

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00114315

DOCUMENT TYPE: Review

**PRODUCT NAMES:** PhotoRecall Deluxe 2.0 (655589); Ulead Photo Explorer 4.2 (737712); IMSI Graphics File Converter 3.0 (737721); Ixla Explorer 1.2 (737739)

**TITLE:** Four Image -Management Tools

**AUTHOR:** Beaudet, Marty

**SOURCE:** Publish, v14 n1 p42(3) Jan 1999

**ISSN:** 0897-6007

**HOMEPAGE:** <http://www.publish.com>

RECORD TYPE: Review

REVIEW TYPE: Review

GRADE: C

REVISION DATE: 20031125

**TITLE:** Four Image -Management Tools

...Graphics File Converter 3.0, and Ixla's Ixla Explorer 1.2 are reviewed and **compared image** -management tools. All four are rated average, and each of the four lower-end applications...

...a good feature, but none has all the good features needed in a top-notch **image** cataloging package. PhotoRecall has broad-based file format support, while Photo Explorer has an easy-to-use interface. File Converter has good printing tools, and Ixla Explorer has an efficient **display**. PhotoRecall has five freeform text fields that can be filled in to help the user remember the content of the **image**. Photo Explorer is easier to use than PhotoRecall because it has a more standard interface with a two-panel window. Photo Explorer can acquire **images** from a camera or scanner, and users can **change** the bit depth of an **image**, resample it, or save it in one of 24 **bitmap** formats. File Converter 3.0 (also called Graphics Converter Gold) has a Windows 3.x...

...does not support long or punctuated file names for new and existing files. It imports **images** from scanners and cameras directly. Users can sort thumbnails using **different** criteria, including size and compression method. Ixla Explorer also has a two-panel window, with...

23/3,K/12

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00113404 DOCUMENT TYPE: Review

PRODUCT NAMES: Optical Discs (830234)

TITLE: New Uses for COLD

AUTHOR: Grigsby, Mason

SOURCE: Imaging & document solutions, v7 n11 p18(10) Nov 1998

ISSN: 1083-2912

HOME PAGE: <http://www.imagingmagazine.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20030730

Many new information technology (IT) initiatives are about to **change** how **computer output** to laser disk (COLD) technology is used and integrated into mainstream enterprise applications. COLD was...

...but it now goes far beyond storage to provide a seamless electronic delivery network of **computer** information. COLD data warehouses may soon become the main element in large-scale e-commerce operations, and IT departments and customer service phone call-in **centers** are already benefiting greatly from COLD technology standards. Instantaneous customer feedback on printed and electronic materials are also available thanks to COLD-savvy phone call **centers**. COLD's influence and uses in bill accessing, customer service, and data delivery on intranets...

DESCRIPTORS: Archiving; Electronic Publishing; **Image** Storage; Optical Discs

23/3,K/13

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00113239 DOCUMENT TYPE: Review

**PRODUCT NAMES:** Extensis Intellihance Pro 4.0 Macintosh & Windows (479209)

**TITLE:** Extensis revs Intellihance image enhancement tool

**AUTHOR:** Kahney, Leander

**SOURCE:** eMedia Weekly, v12 n44 p6(2) Dec 7, 1998

**ISSN:** 0892-8118

**HOME PAGE:** <http://www.emediaweekly.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

**GRADE:** Product Analysis, No Rating

**REVISION DATE:** 20020422

**TITLE:** Extensis revs Intellihance image enhancement tool

Extensis's Intellihance Pro 4.0 (available through DPA Software), an **image** enhancement tool that is compatible with Adobe Systems' Adobe Photoshop 4.0 and Corel's Corel Photo-Paint 8, does many automatic color corrections, **image** adjustments, and enhancements. Intellihance Pro 4.0 automatically tunes **brightness**, **contrast**, sharpness, and saturation, says Extensis, and can also eliminate color casts, dust, and scratches. A new Power Variations feature allows users to **compare** variations before applying any **changes**, and multipane previews **show** up to 25 variations at the same time. The matrix can be printed as a...

...to use, with useful presets and the ability to view many options concurrently in a **display** of tiled windows. The user says Intellihance Pro 4.0's extensive automation saves him...

**DESCRIPTORS:** Color Matching; Graphic Arts; Graphics Tools; **Image**  
Processing; Photoshop

**23/3,K/14**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00110714 DOCUMENT TYPE: Review

**PRODUCT NAMES:** Powertone 1.1 Macintosh (716626)

**TITLE:** Powertone 1.1

**AUTHOR:** Benson, Jim

**SOURCE:** Publish, v13 n8 p46(1) Aug 1998

**ISSN:** 0897-6007

**HOME PAGE:** <http://www.publish.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Review

**GRADE:** B

**REVISION DATE:** 20001130

Intense Software's Powertone 1.1, in **contrast** to Adobe Systems' Adobe

Photoshop, makes it easy to create beautiful duotones (two color **images** ). Powertone is rated very good overall, especially for the excellent quality of its **output** . To create a duotone in Powertone, users begin with a color **image** , which maps two colors chosen by the user to the full color spectrum of the **image** . Powertone blends the colors as it works to match the original **image** , and produces showpiece **images** , especially when **compared** with conventional duotones. The user chooses a preset ink combo, such as process red and process black. In the pop-up menu, users can see the altered **image** instantly in the preview window beside the initial four-color **image** . To **change** the mapping of the two colors over the full color spectrum, users open another dialog box, enter numerical values, close the dialog box, view the **changes** in the **image** , and repeat the procedure until the desired effect is achieved. Powertone operates on CMYK and RGB **images** , and although users are advised to begin with TIFF or EPS files, testers encountered no...

DESCRIPTORS: Apple Macintosh; Desktop Publishing Utilities; Graphics Tools  
; **Image** Processing; MacOS; Printing & Graphic Arts

23/3,K/15

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
(c)2004 Info.Sources Inc. All rts. reserv.

00108808 DOCUMENT TYPE: Review

PRODUCT NAMES: CorelDRAW 8 (701971)

TITLE: CorelDraw 8: New ideas are running thin

AUTHOR: Phillips, Jon

SOURCE: boot, v3 n4 p76(1) Apr 1998

ISSN: 1088-5439

HOME PAGE: <http://www.bootnet.com>

RECORD TYPE: Review

REVIEW TYPE: Review

GRADE: B

REVISION DATE: 20001130

...casual user will find CorelDRAW! 7 satisfactory. CorelDRAW 8 provides more precision controls than any **computer** artist could ever use, but it is not really a full upgrade. The latest release of the vector application **focuses** on time-saving interface improvements and faster special effects tools. However, few unique new features are provided that will **change** the look of the **output** created. The most obvious and useful updates are two work-saving tools that help quickly...

...It allows designers to bisect closed path objects based on the freehand drawing path. More **bitmap** plug-ins are provided, including application software for Auto F/X Photo/Graphic Edges.

DESCRIPTORS: Apple Macintosh; Artists; Draw; Graphics Tools; IBM PC & Compatibles; **Image** Processing; MacOS

23/3,K/16

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00106284 DOCUMENT TYPE: Review

PRODUCT NAMES: Genuine Fractals (687235)

TITLE: Genuine Fractals

AUTHOR: McClelland, Deke

SOURCE: Macworld, v15 n2 p52(1) Feb 1998

ISSN: 0741-8647

HOME PAGE: <http://www.macworld.com>

RECORD TYPE: Review

REVIEW TYPE: Review

GRADE: A

REVISION DATE: 20010630

Altamira Group's Genuine Fractals promises to deliver **image** editing in a scalable format. While several vendors have claimed to deliver pixel-free **image** formats, none have delivered on this promise. Genuine Fractals, a plug-in for Photoshop, discards...

...and color blocks. The system makes use of a pixel-free imaging scheme called Fractal **Image** Format (FIF). FIF lets users enlarge **images** without interpolation of pixels or blurring. Using the program's export module, it is possible to save an RGB (but not a CMYK) **image** to a compressed FIF file, which is only about 10 to 15 percent of the **image**'s original size. Scaling fractals is very **different** from scaling pixels. When a pixel-based **image** in Photoshop is enlarged, the program uses an averaging technique to **calculate** the colors of new pixels. While this does offer higher resolution, it causes some blurring...

...however, generates new pixels that follow the same mathematical definitions and maintain a very sharp **focus** regardless of the scale. The process is not completely lossless, however; when scaling beyond 300 percent, there will be some stair-stepping, but the printed **output** is still very attractive.

DESCRIPTORS: Apple Macintosh; Fractals; Graphics Tools; **Image** Processing  
; MacOS

23/3,K/17

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.

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00101718 DOCUMENT TYPE: Review

PRODUCT NAMES: OpenGL (352985); Microsoft Direct3D (584703); QuickDraw 3D (571814)

TITLE: Variations on a 3-D API

AUTHOR: Grunin, Lori

SOURCE: Computer Shopper, v17 n6 p589(2) Jun 1997

ISSN: 0886-0556

HOME PAGE: <http://www.computershopper.com>

RECORD TYPE: Review

REVIEW TYPE: Product Comparison

GRADE: Product Comparison, No Rating

REVISION DATE: 19990530

Silicon Graphics' OpenGL, Microsoft's Microsoft Direct3D (D3D), and Apple **Computer** 's QuickDraw 3D application programming interfaces (APIs) are **compared** . Each has its advantages and disadvantages, but all three provide immediate-mode and retained-mode...

...of 3D processing. In immediate mode (which is preferable for 3D scenes with objects that **change** little), an application does the work of the geometry engine and sends rendering to the...

...mode (which is recommended for more interactive 3D objects), the API processes both the geometry **display** lists and rendering. D3D emphasizes immediate mode operation because it is used for game development...

...3D engine. OpenGL and Q3D both support nonuniform rational B-splines (NURBs) and other curve- **centered** geometries. Other topics covered include: complex primitives; hardware interaction; rendering and rendering quality; extensibility; the...

...COMPANY NAME: 112127); Apple **Computer** Inc...

DESCRIPTORS: 3D Graphics; Educational Games; Games; Graphics; **Image** Processing; Interfaces; Program Development

**23/3,K/18**

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00100373 DOCUMENT TYPE: Review

**PRODUCT NAMES: Adobe Acrobat (433039)**

**TITLE: PDF will change our world**

AUTHOR: Romano, Frank J

SOURCE: Electronic Publishing Magazine, v21 n1 p11(1) Jan 1997

ISSN: 1097-9190

HOME PAGE: <http://www.electronic-publishing.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20021226

**TITLE: PDF will change our world**

...the high end of the printing industry, including direct to film, plate, printer, and press **output** . It will also provide **displayable** documents for disk and World Wide Web distribution. Each Acrobat PDF page is independent of all others, while in PostScript a 'page' is the outgrowth of a **calculation** or procedure. PDF pages eliminate the fluctuations of PostScript to enable a framework for useful...

...an imaging device. The PDL is converted to a list of page objects, and a **bitmap** of pixels is generated to drive the **imager** . When a page or document becomes a PDF, interpretation and **display** list functions are being done, and the document can be **output** on any PostScript RIP.

**23/3,K/19**

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.

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00096506 DOCUMENT TYPE: Review

**PRODUCT NAMES:** MicroStation Descartes (637777); MicroStation GeoGraphics (617857)

**TITLE:** MicroStation GeoGraphics and MicroStation Descartes

**AUTHOR:** Goodman, Jane E

**SOURCE:** Professional Surveyor, v16 n7 p14(5) Oct 1996

**ISSN:** 0278-1425

**HOME PAGE:** <http://www.profsurv.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

**GRADE:** Product Analysis, No Rating

**REVISION DATE:** 20030330

Bentley Systems' MicroStation Descartes and MicroStation GeoGraphics are products that expand the MicroStation **computer** -aided design (CAD) graphics environment to meet the requirements of surveyors who must process increasing...

...new data collection methods. This data is culled from such technologies as aerial photography, satellite **imagery**, GPS collection, soils, demographic and species distribution studies, and standard **boundary**, planimetric, and topographic data. MicroStation Descartes provides applet tools to edit, transform, improve, mosaic, or georeference **images** with an interactive interface that has excellent **display** performance. MicroStation GeoGraphics provides spatial data input, management, manipulation, **analysis**, and visualization GIS tools, with an included subset of the MicroStation Descartes raster engine. MicroStation...

...MicroStation user interface with altered pull-down menus and added toolboxes; MicroStation operation is not **changed**. MicroStation Descartes **Image** Manager functions include import/export of TIFF, RLE, CIT, and COT raster formats. MicroStation Descartes **Image** Edit provides **image** editing tools with undo, and **image** enhancement tools, including **contrast** stretching, density slicing, and mosaicing functions.

**DESCRIPTORS:** Data Acquisition; Database Management; GIS; GPS; **Image** Processing; Mapping; Surveying

23/3,K/20

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

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00090794 DOCUMENT TYPE: Review

**PRODUCT NAMES:** GeoLink (508365); ArcInfo (198633)

**TITLE:** Grizzly Country: GPS/GIS Help Monitor the Great Bear's Fragile...

**AUTHOR:** Peterson, Darrel E

**SOURCE:** GIS World, v9 n4 p52(4) Apr 1996

**ISSN:** 0897-5507

**HOME PAGE:** <http://www.gisworld.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20030728

...Field mapping and GISes are used to help scientists understand and protect these animals. A **study** used GISes to **show** how **changing** vegetation **patterns** affected grizzly feeding. The project started out with a GeoLink Global Positioning System/GIS mapping system from GeoResearch. GPS data collected in the **study** area provides coordinate information, and the field mapping software combines **images** with the GPS position overlays. The field information is **analyzed** with the help of ESRI's ARC/INFO GIS package. Meadow vegetation is logged and tracked, since it is an important part of a bear's diet. The **imagery** offers an **image** of what is present at a given time. This is added to a database of what was in each spot in the past, making an effective platform for **analysis** and planning.

23/3,K/21

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2004 Info.Sources Inc. All rts. reserv.

00089458 DOCUMENT TYPE: Review

PRODUCT NAMES: Digital Video (830268)

TITLE: How to Buy It: a Nonlinear Editing System

AUTHOR: Turner, Bob

SOURCE: Videography, v21 n1 p63(3) Jan 1996

ISSN: 0363-1001

HOME PAGE: <http://www.videography.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20010727

Selecting a nonlinear editing system (NLES) is a complex process, and **different** needs will require **different** systems. Systems may be designed for full-time editors or clients of full-time editors...

...do, although few purchasers take this step. Although most vendors will offer glossy modules to **show** their system at its best, it is important to **determine** whether each fits in with the particular user's editing style. The three areas to **focus** on when **evaluating** an NLES are the tools for selecting a clip, placing it in a sequence, and...

...it, and in fact the editing toolset is often completely separate from the issue of **image** quality.

DESCRIPTORS: Digital Video; Graphics Tools; **Image** Processing

23/3,K/22

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00082385 DOCUMENT TYPE: Review



**PRODUCT NAMES:** Impos/2 (581801)

**TITLE:** Impos/2

**AUTHOR:** Schindler, Esther

**SOURCE:** OS/2 Magazine, v2 n8 p55(2) Aug 1995

**ISSN:** 1073-1547

**HOME PAGE:** <http://www.mfi.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Review

**GRADE:** A

**REVISION DATE:** 20000930

NovaStar Software & Consulting GmbH's Impos/2 for OS/2, a recommended, low-cost, **image** processing application, captures **images** from the clipboard, a scanner, or from video overlay cards. The user can **display**, edit, and work with **images** to refine them using excellent tools. Impos/2 is excellent for viewing digital **images**, supporting most file formats. **Image** formats are converted simply by saving the file as a **different** file type. During test, the product worked flawlessly with a Hewlett-Packard (HP) ScanJet IIP, and many other scanners are supported. Impos/2's most impressive features, however, are its **image** editing and manipulation features. The program provides brushes, airbrushes, line and freehand drawing, erase, smear, color cloning, **contrast** modification, mosaic, edge **detection**, and noise filters. Some Windows programs have more granular control, but Impos/2 is less...

**DESCRIPTORS:** Graphics Tools; IBM PC & Compatibles; **Image** Processing; OS/2; Scanners; Video Frame Grabbers

**23/3,K/23**

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.

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00066344

**DOCUMENT TYPE:** Review

**PRODUCT NAMES:** FotoTouch Color (431885); Kodak PhotoCD Access Software (390046); Picture Publisher for Windows (208001); Adobe PhotoStyler (328766); Adobe Photoshop (213756)

**TITLE:** Photo Retouching with Your Computer

**AUTHOR:** Goldsborough, Reid

**SOURCE:** PC Upgrade, v3 n1 p50(6) Mar 1994

**ISSN:** 1067-0998

**HOME PAGE:** <http://www.bedfordmags.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

**GRADE:** Product Analysis, No Rating

**REVISION DATE:** 20030221

**TITLE:** Photo Retouching with Your Computer

The **computer** has replaced the traditional darkroom for photo retouching. The process starts with a scanner. ScanMan Color's accompanying software, FotoTouch Color, is a basic **image** editor, which lets users touch up an **image** with a paintbrush and eraser tool. The software lets users save

24-bit **images** in several formats, including the compressed JPEG **image** standard. Eastman Kodak's Kodak Photo CD System lets photographs be stored on a Photo CD, in five **different** resolutions from thumbnail to full detail. Each **image** is optimized for density and **brightness**, so users need to do less correcting. Three **image** editing programs offer high quality features. Micrografx's Picture Publisher includes a full range of **image** enhancement tools, and offers exceptionally powerful masking features. Aldus PhotoStyler uses Kodak's Precision Management System for accurate previews of printed **output**. Adobe PhotoShop is another high quality **image** editor.

DESCRIPTORS: Graphics Tools; IBM PC & Compatibles; **Image** Processing; Photography; Photoshop; Windows

23/3,K/24

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
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00062923 DOCUMENT TYPE: Review

PRODUCT NAMES: GIS (830278); Image Storage (830201)

TITLE: Chicago corners parking violators with imaging net

AUTHOR: Newcombe, Tod

SOURCE: Network World, v11 n10 pL2(2) Mar 7, 1994

ISSN: 0887-7661

HOME PAGE: <http://www.nwfusion.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20030330

...PRODUCT NAMES: 830278); Image Storage...

...ticket procedures. The new system starts with an imaging network, in which handwritten tickets are **imaged** and shared across a network. Using a geographic information system (GIS), the city's traffic planners can plot ticket **patterns** on an electronic map, and **analyze** potential **changes** in the city's parking and traffic situation. The city's 12,000 parking tickets...

...a mainframe database. A hearing officer then has immediate access to the remote database, and **image** retrieval time is only about five seconds. The GIS is also used to track scofflaws who do not pay their tickets. The GIS can **show** all tickets issued during recent months against a violator, and predict where the motorists are...

DESCRIPTORS: Courts; GIS; **Image** Storage; Mapping; Models; Municipal Management; OCR; Scanners; Traffic Control

?

**27/3,K/1**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00127367 DOCUMENT TYPE: Review

**PRODUCT NAMES:** Virtual Reality (830334); Distance Learning (840289)

**TITLE:** Distance Learning Gap Narrows: Virtual teachers may be in...

**AUTHOR:** Scanlon, Bill

**SOURCE:** Interactive Week, v7 n41 p55(2) Oct 9, 2000

**ISSN:** 1078-7259

**HOME PAGE:** <http://www.interactive-week.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

**GRADE:** Product Analysis, No Rating

**REVISION DATE:** 20010930

...of glass.' Currently, tele-immersion technology, which was recently demonstrated, requires unwieldy equipment, including a **head - mounted** device, goggles, and seven sizable **cameras**. To become more practicable, tele-immersion will need more powerful sensors, which will 'visually replicate...

**27/3,K/2**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00098834 DOCUMENT TYPE: Review

**PRODUCT NAMES:** WorldToolKit (406741); Autodesk 3D Studio (309443)

**TITLE:** Drivers in Virtual Rigs

**AUTHOR:** Delaney, Ben

**SOURCE:** CyberEdge Journal, p1(2) Nov/Dec 1996

**ISSN:** 1061-3099

**HOME PAGE:** <http://www.cyberedge.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

**GRADE:** Product Analysis, No Rating

**REVISION DATE:** 20030825

...real truck controls to the system. When the driver puts on a head-mounted device ( **HMD** ) and starts the simulation, a texture mapping dashboard of a Kenworth truck below a wide...

**27/3,K/3**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2004 Info.Sources Inc. All rts. reserv.

00087428 DOCUMENT TYPE: Review

**PRODUCT NAMES:** VR Creator (597414); WorldToolKit (406741); dVICE (532142); Easy Scene (558338)

**TITLE: 3-D: The Net's new dimension**

**AUTHOR:** Johnson, R Colin

**SOURCE:** Electronic Engineering Times, v876 p6(5) Nov 1995SP

**ISSN:** 0192-1541

**HOME PAGE:** <http://www.eet.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

**GRADE:** Product Analysis, No Rating

**REVISION DATE:** 20030825

...the future, multimedia titles will have genuine 3-D viewing options for head-mounted device ( **HMDs** ), and users will do 3-D navigation while seeing and hearing synchronized images and sound...

**27/3,K/4**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

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00087134

**DOCUMENT TYPE:** Review

**PRODUCT NAMES:** VREAM Virtual Reality Development System (442411)

**TITLE: Flight Fear Flees**

**AUTHOR:** Delaney, Ben

**SOURCE:** CyberEdge Journal, v6 n1 p8(2) Jan/Feb 1996

**ISSN:** 1061-3099

**HOME PAGE:** <http://www.cyberedge.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

**GRADE:** Product Analysis, No Rating

**REVISION DATE:** 20020228

...or her tolerance level rises. The VR system uses a Pentium-based PC, General Reality **HMD** , Ascension tracking, a home-made vibration device, and VREAM virtual reality software. The system simulates...

**27/3,K/5**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

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00084743

**DOCUMENT TYPE:** Review

**PRODUCT NAMES:** Client/server (832383); Health Care (830400)

**TITLE: The Agony & The Ecstasy: Who's Serving Whom?**

**AUTHOR:** Ciotti, Vincent Zodda, Fred

**SOURCE:** Healthcare Informatics, v12 n10 p61(3) Oct 1995

**ISSN:** 1050-9135

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

**GRADE:** Product Analysis, No Rating

REVISION DATE: 19960330

...and receives data or services.. Vendors of genuine c/s products highlighted include PeopleSoft and **HMDS** . Advantages of c/s to health care providers include the best possible graphical user interface...

**27/3,K/6**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00083737 DOCUMENT TYPE: Review

**PRODUCT NAMES: WorldToolKit (406741)**

**TITLE: Virtual Presentations Get Real**

**AUTHOR:** Remington, Marti

**SOURCE:** PC Today, v9 n10 p119(1) Oct 1995

**ISSN:** 1040-6484

**HOME PAGE:** <http://www.pctoday.com>

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

**GRADE:** Product Analysis, No Rating

REVISION DATE: 20030825

...before construction of model homes. The firm's first efforts with a head-mounted device ( **HMD** ) and a Pentium platform were underpowered; developers quickly realized that powerful Silicon Graphics computers and a **HMD** with better resolution were required to produce acceptably realistic VR experience/output. The first demonstration...

**27/3,K/7**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2004 Info.Sources Inc. All rts. reserv.

00079381 DOCUMENT TYPE: Review

**PRODUCT NAMES: Virtual Reality (830334); Performing Arts (833011)**

**TITLE: Virtual Reality On Stage**

**AUTHOR:** Reaney, Mark

**SOURCE:** VR World, v3 n3 p29(4) May/Jun 1995

**ISSN:** 1060-9547

**RECORD TYPE:** Review

**REVIEW TYPE:** Product Analysis

**GRADE:** Product Analysis, No Rating

REVISION DATE: 20001130

...system described runs Virtus WalkThrough Pro on a Power Mac with a head-mounted display ( **HMD** ) and other hardware. The system substantially reduces the time required to create stage sets for...

**27/3,K/8**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

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00079379 DOCUMENT TYPE: Review

**PRODUCT NAMES: Virtual Reality (830334)**

**TITLE: Welcome to the Next Level: VR Goes Mass Market in 1995**  
**AUTHOR: Alexander, Joanna Close, Jeff Galore, Janet Long, Mark**  
**SOURCE: VR World, v3 n3 p16(6) May/Jun 1995**  
**ISSN: 1060-9547**

**RECORD TYPE: Review**  
**REVIEW TYPE: Product Analysis**  
**GRADE: Product Analysis, No Rating**

**REVISION DATE: 20020630**

...strong sales, including Silicon Graphics, Rambus, Alias Research, Paradigm Simulation, and MultiGen. The four major **HMD** makers are Forte, Virtual I/O, Victor Maxx, and Virtual Entertainment systems, and their products...

**27/3,K/9**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2004 Info.Sources Inc. All rts. reserv.

00079378 DOCUMENT TYPE: Review

**PRODUCT NAMES: Virtual Reality (830334)**

**TITLE: VR: Alive and Well in Sweden**  
**AUTHOR: Montefusco, Diego**  
**SOURCE: VR World, v3 n3 p12(2) May/Jun 1995**  
**ISSN: 1060-9547**

**RECORD TYPE: Review**  
**REVIEW TYPE: Product Analysis**  
**GRADE: Product Analysis, No Rating**

**REVISION DATE: 19951030**

...TV show. Bogdanski Advanced Video Systems is a company started by a head-mounted device ( **HMD** ) developer who worked on the MultiG project; the MultiG project demonstrated an experimental GBPS network...

**27/3,K/10**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00072853 DOCUMENT TYPE: Review

**PRODUCT NAMES: Virtual Reality (830334); Games (834351)**

**TITLE: Off-the-Shelf Guidelines Whisk Simulator to Market**  
**AUTHOR: Mendelsohn, Alex**  
**SOURCE: Computer Design, v33 n12 p73(3) Nov 1994**  
**ISSN: 0010-4566**  
**HOME PAGE: <http://www.computer-design.com>**

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

REVISION DATE: 20030430

...team wanted a fully immersed VR experience, which requires use of a head-mounted device ( **HMD** ). Deals were made with military parts providers for **HMDs** , and other component searches were conducted all over the world for reliable, configurable, stable hardware...

**27/3,K/11**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00071048 DOCUMENT TYPE: Review

**PRODUCT NAMES:** Autodesk 3D Studio (309443); Cyberspace Developer Kit (CDK) (237493); WorldToolKit (406741)

**TITLE:** An Introduction to PC-Based Virtual Reality  
**AUTHOR:** Bomhoff, John E  
**SOURCE:** Morph's Outpost, v2 n4 p1(2) Nov 1994  
**ISSN:** 1074-6501

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

REVISION DATE: 20030825

...more full-functioned, object-oriented (OO) product that supports graphics boards and head mounted devices ( **HMDs** ).

**27/3,K/12**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00070124 DOCUMENT TYPE: Review

**PRODUCT NAMES:** 3D Home Architect (531138); Virtus VR (494241)

**TITLE:** Virtual Reality: Just Another Head Game?  
**AUTHOR:** Mitchell, Gabrielle  
**SOURCE:** Computer Retail Week, v73 p49(2) Sep 26, 1994  
**ISSN:** 1066-7598  
**HOME PAGE:** <http://www.crw.com>

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

REVISION DATE: 20010926

...worlds.' One VR hardware manufacturer can see users of the future wearing head-mounted displays ( **HMDs** ) to provide privacy at work and play; another sees **HMDs** as a new source of profit for cable operators with

football programming, since the viewer could see a game in 3D when wearing the **HMD** . Retailers must be aware of safety factors, and nonimmersive headset units will probably not be as popular as **HMDs** .

**27/3,K/13**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00067331 DOCUMENT TYPE: Review

**PRODUCT NAMES:** Virtus WalkThrough Pro (299006); RealityEngine (396079);  
**VIM Personal Viewer (521809)**

**TITLE:** Virtual Reality Lands the Job  
**AUTHOR:** Delaney, Ben  
**SOURCE:** NewMedia, v4 n8 p40(9) Aug 1994  
**ISSN:** 1060-7188  
**HOME PAGE:** <http://www.newmedia.com>

**RECORD TYPE:** Review  
**REVIEW TYPE:** Product Analysis  
**GRADE:** Product Analysis, No Rating

**REVISION DATE:** 20030728

...3D high-resolution, high-frame-rate multimedia. VIM Personal Viewer is a head-mounted display ( **HMD** ) used in the entertainment industry. Endoscopic Trainer is a computer-aided instruction/virtual reality system...

**27/3,K/14**

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
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00062832 DOCUMENT TYPE: Review

**PRODUCT NAMES:** Simulation (830379); Aviation (830469)

**TITLE:** A Virtual Cockpit for a Distributed Interactive Simulation  
**AUTHOR:** McCarty, W Dean Sheasby, Steven Amburn, Philip Stytz, Martin R  
**SOURCE:** IEEE Computer Graphics & Appl, v14 n1 p49(6) Jan 1994  
**ISSN:** 0272-1716  
**HOME PAGE:** <http://computer.org/cga>

**RECORD TYPE:** Review  
**REVIEW TYPE:** Product Analysis  
**GRADE:** Product Analysis, No Rating

**REVISION DATE:** 20010430

...run under UNIX to eliminate such errors. For the virtual cockpit, a head-mounted display ( **HMD** ) was chosen for its possible applicability to flight simulation, and for its potential cost-savings. The virtual cockpit uses a Silicon Graphics workstation, an **HMD** , a position tracker, and software for flight dynamics and instruments; network interface; display of an...  
?



Set	Items	Description
S1	1994	(HAT OR HEAD OR HELMET) (3N) MOUNT? (3N) (CAMERA? OR LENS) OR - HMDS OR HMD
S2	3	INTEGRAT? (3N) HELMET (3N) DISPLAY (3N) SIGHT? (3N) SYSTEM? OR IHA- DSS OR INTEGRAT? (3N) HELMET (3N) UNIT
S3	1137708	IMAGE??
S4	2805224	DISPLAY? OR OUTPUT OR SHOW
S5	161567	(INPUT OR CAPTUR? OR ENTER? OR RECALL?) AND S3
S6	172440	(TESTS OR TESTING OR TESTED OR TESTED OR EVALUAT? OR ASSES? OR DETERMIN? OR CALCULAT? OR COMPUT???? OR DETECT? OR COMPAR? OR ANAL? OR STUDY OR EXPERIMENT?) AND S3 AND S4
S7	45042	(DIFFERENCE? OR CHANG? OR OFFSET OR DISSIMILARITY OR UNLIK- E? OR DIFFERENT) AND S6
S8	663923	PATTERN? OR TREND() FORMATION
S9	268113	BRIGHTNESS OR LUMIN? OR CONTRAST?
S10	2494337	ANGULAR? OR CENTER? OR FOCUS? OR HORIZONT? OR VERTICAL? OR GRAY OR GREY OR BOUNDAR? OR FIELD(2N) VIEW OR BITMAP
S11	354384	CAMERA?? OR CCD OR CCD(3N) CAMERA?
S12	134	FLIR OR FORWARD() LOOK?() (IR OR INFRARED) (3N) RADAR?
S13	177891	IC=G06K?
S14	63	(S1 OR S2) AND S7
S15	0	S14 AND S13
S16	1	S14 AND S8 AND S9 AND S10
S17	23	S14 AND (S8 OR S9 OR S10)
S18	22	S17 NOT S16
S19	4	S18 AND AD=20001031:20040315/PR
S20	18	S18 NOT S19
S21	18	IDPAT (sorted in duplicate/non-duplicate order)
S22	18	IDPAT (primary/non-duplicate records only)
S23	0	S12 AND S14
S24	178	S7 AND S8 AND S9 AND S10
S25	68	S11 AND S24
S26	0	S25 AND (HELMET OR HEAD) (3N) (MOUNT? OR ATTACH?)
S27	5	S25 AND S13
S28	5	S27 NOT (S18 OR S16)
S29	5	IDPAT (sorted in duplicate/non-duplicate order)
S30	5	IDPAT (primary/non-duplicate records only)
S31	23279	(COMPAR? OR TEST? OR EVALUAT?) (3N) S3
S32	4478	S31 AND (CAPTUR? OR INPUT OR RECALL?)
S33	1227	S32(5N) S4
S34	3	S33 AND S8 AND S9 AND S10
S35	3	S34 NOT (S27 OR S18 OR S16)

? show files; logoff hold

File 344: Chinese Patents Abs Aug 1985-2004/Mar  
(c) 2004 European Patent Office

File 347: JAPIO Nov 1976-2003/Nov(Updated 040308)  
(c) 2004 JPO & JAPIO

File 350: Derwent WPIX 1963-2004/UD, UM & UP=200417

16/3,K/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013907697 \*\*Image available\*\*

WPI Acc No: 2001-391910/200142

XRAM Acc No: C01-119480

XRPX Acc No: N01-288361

**Alkali-developable negative resist for production of electronic devices  
contains film-forming polymer with alkali-soluble and alcohol groups  
which react together under the action of acid from a light-sensitive acid  
generator**

Patent Assignee: FUJITSU LTD (FUIT )

Inventor: KON J; KOZAWA M; NAMIKI T; NOZAKI K; YANO E

Number of Countries: 005 Number of Patents: 011

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2798202	A1	20010309	FR 200011226	A	20000904	200142 B
DE 10043678	A1	20010613	DE 1043678	A	20000903	200142
JP 2001154357	A	20010608	JP 2000257661	A	20000828	200148
KR 2001030230	A	20010416	KR 200051745	A	20000901	200163
JP 2001249455	A	20010914	JP 200061090	A	20000306	200168
JP 2001249456	A	20010914	JP 200061091	A	20000306	200168
US 6506534	B1	20030114	US 2000654433	A	20000901	200313
US 20030138724	A1	20030724	US 2000654433	A	20000901	200352
			US 2002291608	A	20021112	
US 20030138725	A1	20030724	US 2000654433	A	20000901	200352
			US 2002291671	A	20021112	
US 20030138726	A1	20030724	US 2000654433	A	20000901	200352
			US 2002291730	A	20021112	
US 20030143482	A1	20030731	US 2000654433	A	20000901	200354
			US 2002291723	A	20021112	

Priority Applications (No Type Date): JP 2000257661 A 20000828; JP 99248619  
A 19990902; JP 99260815 A 19990914; JP 200061090 A 20000306; JP 200061091  
A 20000306

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2798202	A1		121	G03F-007/038	
DE 10043678	A1			G03F-007/038	
JP 2001154357	A		40	G03F-007/038	
KR 2001030230	A			G03F-007/039	
JP 2001249455	A		15	G03F-007/038	
JP 2001249456	A		13	G03F-007/038	
US 6506534	B1			G03C-001/492	
US 20030138724	A1			G03F-007/04	Div ex application US 2000654433 Div ex patent US 6506534
US 20030138725	A1			G03F-007/04	Div ex application US 2000654433 Div ex patent US 6506534
US 20030138726	A1			G03F-007/04	Div ex application US 2000654433 Div ex patent US 6506534
US 20030143482	A1			G03F-007/39	Div ex application US 2000654433 Div ex patent US 6506534

Abstract (Basic):

... Q') capable of reacting with Q and (2) an acid generator which,  
when exposed to **image** -forming radiation, decomposes to form an acid  
which brings about this reaction between Q and...

...a) a method for forming a negative resist **pattern** by coating a  
substrate with the above NRCl, selectively exposing the resulting film

22/3,K/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014583397 \*\*Image available\*\*  
WPI Acc No: 2002-404101/200243  
XRPX Acc No: N02-317198

Light emitting device repairing method used in electric devices like  
video camera, digital camera, involves application of two reverse bias  
voltages of different levels

Patent Assignee: SEMICONDUCTOR ENERGY LAB (SEME )

Inventor: ARAI Y; OSADA M; YAMAZAKI S

Number of Countries: 031 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020042152	A1	20020411	US 2001973133	A	20011009	200243 B
EP 1198017	A2	20020417	EP 2001124132	A	20011010	200244
CN 1350417	A	20020522	CN 2001139397	A	20011010	200258
JP 2002190390	A	20020705	JP 2001302587	A	20010928	200259
KR 2002028830	A	20020417	KR 200162365	A	20011010	200268
TW 530427	A	20030501	TW 2001124554	A	20011004	200373

Priority Applications (No Type Date): JP 2000309564 A 20001010

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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US 20020042152	A1	38	H01L-021/00	
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EP 1198017	A2 E		H01L-051/20	
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Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT

LI LT LU LV MC MK NL PT RO SE SI TR

CN 1350417	A		H05B-033/00	
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JP 2002190390	A	24	H05B-033/10	
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KR 2002028830	A		H05B-033/10	
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TW 530427	A		H01L-033/00	
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... electric devices like video camera, digital camera, involves  
application of two reverse bias voltages of different levels

Abstract (Basic):

... For repairing electroluminescent (EL) light emitting device in  
electric devices like video camera , digital camera , goggle-type  
display , head mounted display ( HMD ), navigation system, audio  
reproducing device, car audio, audio component, notebook computer ,  
game machine, portable information terminal, mobile computer ,  
cellular phone, portable game machine, electronic book, image  
reproducing device, digital versatile disk (DVD) player, etc....

...transmitted portion is increased, but current flowing to  
electroluminescent layer is increased, which increases the  
luminescence of emitted light...

22/3,K/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014560897 \*\*Image available\*\*  
WPI Acc No: 2002-381600/200241  
XRPX Acc No: N02-298609

Electroluminescent display device driving method for e.g. digital  
camera, involves applying equal voltage to monitor EL element through

which constant current flows, and EL element in light emitting state  
Patent Assignee: SEMICONDUCTOR ENERGY LAB (SEME ); KOYAMA J (KOYA-I)  
Inventor: KOYAMA J

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020017643	A1	20020214	US 2001924610	A	20010809	200241 B
JP 2002123219	A	20020426	JP 2001239058	A	20010807	200244

Priority Applications (No Type Date): JP 2000243272 A 20000810

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20020017643	A1	39	H01L-029/04	
JP 2002123219	A	27	G09G-003/30	

**Electroluminescent display device driving method for e.g. digital camera, involves applying equal voltage to monitor EL...**

Abstract (Basic):

... the electrodes of monitor EL element in each of sub-frame periods divided from one **display** frame period. The values of constant current applied to monitor EL element are **different** during two sub-frame periods. The voltage applied between electrodes of monitor EL element is...

... An INDEPENDENT CLAIM is also included for **display** device...

...For driving EL **display** device used in electronic device such as video camera, digital camera, head mounted display, game machine, car navigation system, personal computer, portable information terminal such as mobile computer, portable telephone, electronic book, etc...

...Suppresses variation in **brightness** of the EL element, thus high image quality is provided...

...The figure illustrates the EL **display** device production steps...

...Title Terms: **DISPLAY** ;

22/3,K/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014368853 \*\*Image available\*\*

WPI Acc No: 2002-189555/200225

XRAM Acc No: C02-058791

XRPX Acc No: N02-143653

Display device for electronic equipment, e.g. personal computer, includes pixels, each having bottom-gate type thin film transistor  
Patent Assignee: SEMICONDUCTOR ENERGY LAB (SEME ); HOSOKI K (HOSO-I); KOYAMA (KOYA-I); YAMAZAKI S (YAMA-I)

Inventor: KAZUE H; KOYAMA J; YAMAZAKI S; HOSOKI K

Number of Countries: 031 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1168291	A2	20020102	EP 2001114361	A	20010613	200225 B
US 20020005696	A1	20020117	US 2001878312	A	20010612	200225
CN 1329368	A	20020102	CN 2001121297	A	20010613	200227
JP 2002072964	A	20020312	JP 2001172033	A	20010607	200233
KR 2001112646	A	20011220	KR 200133126	A	20010613	200239

US 6528951	B2	20030304	US 2001878312	A	20010612	200320
US 20030132716	A1	20030717	US 2001878312	A	20010612	200348
			US 2003347241	A	20030121	
TW 512304	A	20021201	TW 2001114193	A	20010612	200353

Priority Applications (No Type Date): JP 2000176246 A 20000613

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1168291	A2	E	49	G09G-003/32	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT					
LI LT LU LV MC MK NL PT RO SE SI TR					
US 20020005696	A1			H01J-001/62	
CN 1329368	A			H01L-031/12	
JP 2002072964	A		30	G09G-003/30	
KR 2001112646	A			G09G-003/30	
US 6528951	B2			G09G-003/30	
US 20030132716	A1			G09G-003/10	Div ex application US 2001878312
					Div ex patent US 6528951
TW 512304	A			G09G-003/38	

**Display device for electronic equipment, e.g. personal computer , includes pixels, each having bottom-gate type thin film transistor**

Abstract (Basic):

... A **display** device comprises a buffer amplifier; a monitoring electroluminescence (EL) element (3505); a constant current generator

... A **display** device comprises a buffer amplifier; a monitoring EL element; a constant current generator; a power...

...constant current generator and to a non-inversed input terminal of the buffer amplifier. An **output** terminal of the buffer amplifier is connected to the constant current generator. An electric potential...

...For an electronic equipment, e.g. a personal **computer**, a video **camera**, a **head mounted display**, an **image** play back device, or a **mobile computer** (claimed...

...The inventive **display** device is capable of controlling the **change** in **luminance** and increase in current consumption of an EL element due to a **change** in surrounding temperature. It can also obtain a larger screen, higher definition and more **gray** scales despite the inferior frequency characteristic of a source signal line driving circuit...

...The figure is a sectional view of the inventive **display** device...

Technology Focus:  
TECHNOLOGY **FOCUS** - ...

...Preferred Components: The **display** device further comprises an adder circuit, source signal lines, gate signal lines, a source signal...

...and additional power supply lines. The adder circuit has an input terminal connected to the **output** terminal of the buffer, and an **output** terminal connected to the power supply line. The **difference** in electric potential between the input and **output** terminals of the adder circuit is kept constant. The bottom-gate type TFT comprises a...

...TFT. The source signal line driver circuit has a mechanism for successively sampling digital or **analog** signals that have been subjected to k-fold time expansion (where k is a natural

Title Terms: **DISPLAY ;**

22/3,K/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014300902 \*\*Image available\*\*

WPI Acc No: 2002-121606/200216

XRPX Acc No: N02-091234

**Motion compensation for head mounted displays of tele-presence system, involves transforming image to vary displayed location of static objects based on camera position data and head mounted display data**

Patent Assignee: CANADIAN SPACE AGENCY (CASP-N)

Inventor: EDWARDS E C

Number of Countries: 004 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200122149	A1	20010329	WO 2000CA1063	A	20000922	200216 B
GB 2372169	A	20020814	WO 2000CA1063	A	20000922	200261
			GB 20026051	A	20020314	
JP 2003510864	W	20030318	WO 2000CA1063	A	20000922	200321
			JP 2001525460	A	20000922	

Priority Applications (No Type Date): US 99155132 P 19990922

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200122149	A1	E	34	G02B-027/01	
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Designated States (National): CA GB JP US

GB 2372169	A		G02B-027/01	Based on patent WO 200122149
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JP 2003510864	W	35	H04N-005/64	Based on patent WO 200122149
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**Motion compensation for head mounted displays of tele-presence system, involves transforming image to vary displayed location of static objects based on camera position data and head mounted display data**

Abstract (Basic):

... Remote camera (11) transfers captured image for display on head mounted display ( HMD ) (1) including viewing field. Based on camera position data and HMD position data, the image is transformed to vary the displayed location of static objects, relative to field of view .

... An INDEPENDENT CLAIM is also included for motion compensation apparatus for head mounted display .

...predictive process or by time delay, since it is reactive and uses sensed information on head mounted position and camera position. System requires no knowledge of time delay, since required head position information and camera position data are sensed at different times allowing compensation for any delay between sensing one and then another...

...The figure shows the system incorporating head mounted display coupled to computer and in communication with remote camera...

... HMD (1

...Title Terms: **DISPLAY ;**

22/3,K/5 (Item 5 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013936180 \*\*Image available\*\*  
WPI Acc No: 2001-420394/200145  
XRPX Acc No: N01-311441

Head mounted display unit adjusts display condition of image on the screen based on brightness of external environment

Patent Assignee: CANON KK (CANO )  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000298246	A	20001024	JP 200032393	A	20000209	200145 B

Priority Applications (No Type Date): JP 9934955 A 19990212

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2000298246	A	13	G02B-027/02	

Head mounted display unit adjusts display condition of image on the screen based on brightness of external environment

Abstract (Basic):

... Display unit has a regulator to adjust set values about image display like brightness of screen, contrast, outline enhancement and tint. Mode display unit switches between various display modes with different set values as adjusted by the regulator based on the brightness of the external environment.

... a) display procedure...

...b) display control program...

...For head mounted displays ( HMD ).

...An external quantity of light is detected and display condition of image is adjusted. Brightness and image quality can be set up independently to right and left of display unit. Optimum display control and automatic image adjustment can be done to legible condition depending on brightness of external environment

...Title Terms: DISPLAY ;

22/3,K/6 (Item 6 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013728583 \*\*Image available\*\*  
WPI Acc No: 2001-212813/200122  
XRAM Acc No: C01-063597  
XRPX Acc No: N01-152036

Semiconductor device, e.g. electroluminescent display device, comprises three wirings, three insulating films, semiconductor film, and gate electrode

Patent Assignee: SEMICONDUCTOR ENERGY LAB (SEME ); SEL SEMICONDUCTOR ENERGY LAB (SEME )  
Inventor: ISOBE A; SHIBATA H

Number of Countries: 030 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1081676	A1	20010307	EP 2000118783	A	20000830	200122	B
JP 2001144301	A	20010525	JP 2000253571	A	20000824	200136	
CN 1286493	A	20010307	CN 2000126319	A	20000830	200140	
KR 2001039857	A	20010515	KR 200051005	A	20000831	200167	
TW 478014	A	20020301	TW 2000116126	A	20000810	200305	
US 6583472	B1	20030624	US 2000653535	A	20000831	200343	

Priority Applications (No Type Date): JP 99246798 A 19990831

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1081676	A1	E	38	G09G-003/36	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT					
LI LT LU LV MC MK NL PT RO SE SI					
JP 2001144301	A		19	H01L-029/786	
CN 1286493	A			H01L-021/00	
KR 2001039857	A			H01L-029/786	
TW 478014	A			H01L-021/00	
US 6583472	B1			H01L-027/01	

**Semiconductor device, e.g. electroluminescent display device, comprises three wirings, three insulating films, semiconductor film, and gate electrode**

Abstract (Basic):

... As a semiconductor device, e.g. video camera, digital camera, projector, head-mount display, car navigation system, personal computer, information processing terminal or preferably an electroluminescent (EL) display device...

...a writing-in electric current of a neighboring pixel can be avoided, thus obtaining satisfactory display images.

...The figure shows a cross-sectional structure of an active matrix type liquid crystal display device

Technology Focus:

TECHNOLOGY FOCUS - ...

...arranged orthogonal to the second or third wiring. The gate electrode is formed on a different layer from the first wiring. It is patterned into an island shape. The first wiring is a scanning line (102), the second wiring

...Title Terms: DISPLAY ;

22/3,K/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

012819077 \*\*Image available\*\*

WPI Acc No: 1999-625308/199954

XRPX Acc No: N99-462049

**Flip chip mounting apparatus - has compensation unit which performs gap compensation process based on output of sensor, that detects gap between mounting head and substrate, during mounting of flip chip on substrate**

Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU )



Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11274240	A	19991008	JP 9879018	A	19980326	199954 B
JP 3397127	B2	20030414	JP 9879018	A	19980326	200328

Priority Applications (No Type Date): JP 9879018 A 19980326

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11274240	A		8	H01L-021/60	
JP 3397127	B2		7	H01L-021/60	Previous Publ. patent JP 11274240

... has compensation unit which performs gap compensation process based on output of sensor, that detects gap between mounting head and substrate, during mounting of flip chip on substrate

...Abstract (Basic): NOVELTY - A camera (39) picks up the image of a substrate (44) on a retainer (40). An adjustment unit changes the interval between the camera and a mounting head (30). A sensor detects the gap between the mounting head and substrate based on the output of the camera. A compensation unit performs a gap compensation process based on the output of the sensor during the mounting of a flip chip (5) on the substrate. DETAILED...

...ADVANTAGE - Shortens flip chip mounting time since image pick-up operation and gap detection can be performed simultaneously, thus improving productivity. Secures mounting accuracy since center of flip chip can be maintained correctly during crimping operation. DESCRIPTION OF DRAWING(S) - The figure shows the perspective diagram of a flip chip mounting apparatus. (5) Flip chip; (30) Mounting head ; (39) Camera ; (40) Retainer; (44) Substrate...

...Title Terms: OUTPUT ;

22/3,K/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010827869 \*\*Image available\*\*

WPI Acc No: 1996-324821/199633

Related WPI Acc No: 1996-266146

XRPX Acc No: N96-273334

Complex lens display device for head mounted display - has memory control part to store position information of image display unit and liquid crystal panel in position information memory

Patent Assignee: CANON KK (CANO )

Inventor: KURAHASHI S; OKAUCHI S; TONOSAKI S

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 8146375	A	19960607	JP 94285692	A	19941118	199633 B
US 6600461	B1	20030729	US 95540897	A	19951011	200354

Priority Applications (No Type Date): JP 94285692 A 19941118; JP 94246255 A 19941012

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8146375	A		9	G02F-001/13	
US 6600461	B1			G09G-005/00	

Complex lens display device for head mounted display - ...

...has memory control part to store position information of image display unit and liquid crystal panel in position information memory

...Abstract (Basic): The **display** device has a position information memory (15) that stores the initial position of a pair of **image display** units (a,b) and a pair of liquid crystal panels (1,2). The liquid crystal panels **display** the **image** information. A pair of **focus** controlling parts (7,8) transfers the position of the liquid crystal panels along the **focussing** direction. An **image display** unit movable part (11) transfers the position of each **image display** unit. A mounting **detection** part (14) **detects** whether the user mounts the complex lens **display** device. A pair of position information **detectors** (12,13) **detect** the position information of the **image display** units and the liquid crystal panels...

...The position information of the **image display** unit and the liquid crystal panels **detected** by the position information **detector** is stored in the position information memory. A memory control part (18) stores the position information of the **image display** unit and the liquid crystal panels in a position information memory when the mounting of the complex lens **display** device is **detected** by the mounting **detection** part...

...ADVANTAGE - Improves operativity. Updates position information during mounting. Prevents generation of positional **offset** error...

...Title Terms: **DISPLAY** ;

22/3,K/9 (Item 9 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

010797118 \*\*Image available\*\*  
WPI Acc No: 1996-294071/199630  
Related WPI Acc No: 1997-206151; 1997-216970  
XRPX Acc No: N96-247334

**Head-mount image display for three-dimensional, wide angle, or panorama image - has reflected frame whose position between liquid crystal display unit and back light is controlled by reflected frame support and control mechanism according to control signal sent by control circuit**

Patent Assignee: CANON KK (CANO ); HOSHI H (HOSH-I); MOCHIZUKI N (MOCH-I); SASAKURA T (SASA-I)

Inventor: HOSHI H; MOCHIZUKI N; SASAKURA T

Number of Countries: 002 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 8125947	A	19960517	JP 94256570	A	19941021	199630 B
US 5929951	A	19990727	US 95546085	A	19951020	199936
US 20020005921	A1	20020117	US 95546085	A	19951020	200212
			US 99328476	A	19990609	
JP 3302195	B2	20020715	JP 94256570	A	19941021	200253
US 6633350	B2	20031014	US 95546085	A	19951020	200368
			US 99328476	A	19990609	

Priority Applications (No Type Date): JP 94256570 A 19941021; JP 951527 A 19950109; JP 95220870 A 19950829

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 8125947 A 8 H04N-005/64  
 US 5929951 A G02F-001/1335  
 US 20020005921 A1 G02F-001/1335 Div ex application US 95546085  
 Div ex patent US 5929951  
 JP 3302195 B2 7 H04N-005/64 Previous Publ. patent JP 8125947  
 US 6633350 B2 G02F-001/1335 Div ex application US 95546085  
 Div ex patent US 5929951

Head-mount image display for three-dimensional, wide angle, or  
 panorama image - ...

...has reflected frame whose position between liquid crystal display unit  
 and back light is controlled by reflected frame support and control  
 mechanism according to

...Abstract (Basic): The display includes a liquid crystal display unit  
 (1) and a back light (2). The LCD unit is covered and protected by...

...The position of the LCD unit and back light are detected by a position  
 sensor (5). The position data is sent to a control circuit (6...

...ADVANTAGE - Reduces difference between quantity of light along back  
 light periphery and quantity of light in central part thus providing  
 good image without irregularity in brightness. Eases insertion and  
 pull out of reflected frame. Prevents omission of quantity-of-light in

...Title Terms: IMAGE ;

22/3,K/10 (Item 10 from file: 350)  
 DIALOG(R)File 350:Derwent WPIX  
 (c) 2004 Thomson Derwent. All rts. reserv.

010668909 \*\*Image available\*\*  
 WPI Acc No: 1996-165863/199617  
 Related WPI Acc No: 2003-318308  
 XRPX Acc No: N96-139405

Head mounting type video camera with tracking device - has head  
 drive part which drives and rotates head part to change its optical  
 axis based on output of tracking control part

Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 8046848	A	19960216	JP 94178076	A	19940729	199617 B

Priority Applications (No Type Date): JP 94178076 A 19940729

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 8046848	A		9 H04N-005/232	

Head mounting type video camera with tracking device...

...has head drive part which drives and rotates head part to change its  
 optical axis based on output of tracking control part

...Abstract (Basic): The video camera has a camera process circuit (8)  
 which outputs a luminance signal (Y) which is input to a tracking  
 operation part (9a). A feature extraction part...

...A tracking control part (13) **compares** the feature of the screen domain with a predetermined screen domain and a movable vector on the picture taking screen is **computed**. The amount of drive and the direction of drive is **computed** and supplied to a head drive part (4). The head drive part drives and rotates a head part (1) mounted on a head to **change** its optical axis...

...ADVANTAGE - Avoids blurring of **image**. Provides reliable recording...  
...Title Terms: **CHANGE** ;

**22/3,K/11** (Item 11 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2004 JPO & JAPIO. All rts. reserv.

06806924 \*\*Image available\*\*  
INPUT DEVICE

PUB. NO.: 2001-034408 [JP 2001034408 A]  
PUBLISHED: February 09, 2001 (20010209)  
INVENTOR(s): ATSUTA AKIO  
APPLICANT(s): CANON INC  
APPL. NO.: 11-202951 [JP 99202951]  
FILED: July 16, 1999 (19990716)

#### ABSTRACT

... input device for inputting information controlling a main body device with an optical gyroscope for **detecting angular** velocity in the directions of one or more axes and a control circuit for processing...

...the optical gyroscope.

SOLUTION: An observation object M is, for instance, a monitor of a **computer**, etc. The **image analysis** circuit 32 of a head mount **display** ( **HMD** ) **calculates** which part of the object M an observer 101 watches carefully by **comparing** the direction of the object M with respect to the optical axis of an **image** forming lens system 28 which is obtained by an operation with the direction of the...

...the observer 101 with respect to the optical axis of the system 28 which is **calculated** by sight line **detection**. The direction **change** of the **HMD** is also **detected** by using a direction **detecting** means 40 such as a gyroscope. Here, a small-sized optical gyroscope is used as the means 40. Then, it is possible to make the **HMD** small-sized and light in weight even though the small-sized optical gyroscope is mounted on the **HMD**.

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**22/3,K/12** (Item 12 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2004 JPO & JAPIO. All rts. reserv.

06502897 \*\*Image available\*\*  
HELMET MOUNTED **DISPLAY** DEVICE

PUB. NO.: 2000-088613 [JP 2000088613 A]  
PUBLISHED: March 31, 2000 (20000331)  
INVENTOR(s): NISHIMINE TAKEKI  
APPLICANT(s): SUZUKI MOTOR CORP

APPL. NO.: 10-276635 [JP 98276635]  
FILED: September 11, 1998 (19980911)

HELMET MOUNTED **DISPLAY** DEVICE

ABSTRACT

PROBLEM TO BE SOLVED: To reduce the fatigue of eyes of an operator by facilitating **focusing** when a point of sight is shifted between a scene and a virtual **image** .

SOLUTION: This helmet mounted **display** device **HMD** 10 is provided with a vehicle speed sensor 12 for **detecting** a vehicle speed V of a motor cycle, a virtual **image display** means 14 to **display** a virtual **image** S2 concerning information such as vehicle speed V **detected** by the vehicle speed sensor 12 through a light transmitting surface of a helmet, a virtual **image** distance altering means 16 to alter a virtual **image** distance L as visual distance to the virtual **image** S2 to be **displayed** on the virtual **image display** means 14 and a control means 18 to alter the virtual **image** distance L according to the vehicle speed V **detected** by the vehicle speed sensor 12 through the virtual distance altering means 16. An operator R tends to see a scene the farther for a larger vehicle speed V. The **HMD** 10 is so arranged to **change** the virtual **image** distance L in proportion to the vehicle speed V.

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22/3,K/13 (Item 13 from file: 347)

DIALOG(R)File 347:JAPIO

(c) 2004 JPO & JAPIO. All rts. reserv.

06444051 \*\*Image available\*\*

**COMPUTER** SYSTEM

PUB. NO.: 2000-029621 [JP 2000029621 A]  
PUBLISHED: January 28, 2000 (20000128)  
INVENTOR(s): TAJIMA SHIGERU  
APPLICANT(s): SONY CORP  
APPL. NO.: 10-195588 [JP 98195588]  
FILED: July 10, 1998 (19980710)

**COMPUTER** SYSTEM

ABSTRACT

... virtual mouse with excellent handleability in an actual use state with respect to a wearable **computer** or the like.

SOLUTION: A video **camera** 11 and a **head - mounted display** 12 are integrated and connected to a **computer** main body 20. Plural LEDs 41a-41j mounted to the fingers of a user are connected to a **computer** and driven by appropriate code signals, the **images** of the LEDs flickering in mutually **different patterns** are picked up by the video camera and the spatial positions of the respective LEDs are fetched to the **computer** . The key of the virtual keyboard 100 and the button of the virtual mouse 200 **displayed** on the screen 12s of a **display** are accessed by a **luminescent** point BP corresponding to the spatial positions of the respective LEDs and a desired input...

22/3,K/14 (Item 14 from file: 347)

DIALOG(R)File 347:JAPIO  
(c) 2004 JPO & JAPIO. All rts. reserv.

06444049     \*\*Image available\*\*  
COMPUTER SYSTEM

PUB. NO.:       2000-029619 [JP 2000029619 A]  
PUBLISHED:     January 28, 2000 (20000128)  
INVENTOR(s):   TAJIMA SHIGERU  
APPLICANT(s):   SONY CORP  
APPL. NO.:      10-195587 [JP 98195587]  
FILED:          July 10, 1998 (19980710)

COMPUTER SYSTEM

#### ABSTRACT

... a virtual mouse with excellent intuitive property, visibility and handleability with respect to a wearable **computer** .

SOLUTION: A video **camera** 11 and a **head - mounted display** 12 are integrated and connected to a wearable **computer** main body 20 mounted to the waist part of a user. Three LEDs 31, 32 and 33 mounted to the fingers of the user are connected to a **computer** and driven by appropriate code signals, the **images** of the LEDs flickering in mutually **different patterns** are picked up by the video camera and the spatial positions of the respective LEDs are fetched to the **computer** . The spatial positions of the respective LEDs **changed** corresponding to the movement of the fingers corresponding to the input operation of a normal mouse button are fetched through the video camera to the **computer** and the input operation of the virtual mouse corresponding to the movement of the fingers...

22/3,K/15       (Item 15 from file: 347)

DIALOG(R)File 347:JAPIO  
(c) 2004 JPO & JAPIO. All rts. reserv.

05585850       \*\*Image available\*\*  
VIDEO **DISPLAY** METHOD AND ITS DEVICE

PUB. NO.:       09-200650 [JP 9200650 A]  
PUBLISHED:     July 31, 1997 (19970731)  
INVENTOR(s):   TAKIHARA KAZUHIKO  
                  IMAI YUKIO  
                  KAMIMURA KIYOHISA  
                  TSUCHIYAMA HIROSHI  
APPLICANT(s):   NIPPON STEEL CORP [000665] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.:      08-022933 [JP 9622933]  
FILED:          January 17, 1996 (19960117)

VIDEO **DISPLAY** METHOD AND ITS DEVICE

#### ABSTRACT

...TO BE SOLVED: To ensure a sharp visual field of an external field simply by **detecting** switching of a shield visor in the case of using with head mount, interrupting the...

...SOLUTION: When a mode **changeover** switch 5 is thrown at a position A, a shield visor 2 is set down...

... signal of a camera, then the video signal of the camera is monitored by

an **HMD** 1. When the mode **changeover** switch 5 is thrown at the position A, the shield visor 2 is set up...

... switch 3. Thus since the see-through function is stopped and the driver has no **display pattern**, then a sharp external visual field is obtained. When the switch 5 is set to a position B, the function of the switch 3 is stopped and the **image** of the see-through function is recovered.

22/3,K/16 (Item 16 from file: 347)

DIALOG(R)File 347:JAPIO

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05366504 \*\*Image available\*\*

STEREOSCOPIC **DISPLAY** DEVICE

PUB. NO.: 08-322004 [JP 8322004 A]

PUBLISHED: December 03, 1996 (19961203)

INVENTOR(s): TABATA SEIICHIRO

IBA YOICHI

APPLICANT(s): OLYMPUS OPTICAL CO LTD [000037] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 07-124661 [JP 95124661]

FILED: May 24, 1995 (19950524)

STEREOSCOPIC **DISPLAY** DEVICE

...JAPIO CLASS: Input **Output** Units)

#### ABSTRACT

PURPOSE: To provide a stereoscopic **display** easy to observe by which coincidence between a diopter scale and a congestion angle is...

...CONSTITUTION: The stereoscopic **display HMD** is provided with LCDs 11L, 11R and an optical system to enlarge an **image** in front. The remarked point part of the left eye 10L of an observer is **detected** by a line of sight **detector** 16, and the signal of a photodetector 18 is inputted to a line signal sampling...

... the video signal are sampled, and the correlation of right and left video signals is **calculated**. A parallax in accordance with the diopter scale set on the **HMD** is **compared** with a parallax signal based on an obtained parallax signal, and **difference** is set as shift quantity, and a right video signal from a video reproducer is **horizontally** shifted by a shift circuit 38, and **displayed** on the right LCD 11R. A video **displayed** on a **display** surface so as to almost make the congestion angle coincide with the diopter in a real time is shifted in a **horizontal** direction.

22/3,K/17 (Item 17 from file: 347)

DIALOG(R)File 347:JAPIO

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05333726 \*\*Image available\*\*

VIDEO **DISPLAY** DEVICE

PUB. NO.: 08-289226 [JP 8289226 A]

PUBLISHED: November 01, 1996 (19961101)

INVENTOR(s): ISHIBASHI KENJI

APPLICANT(s): MINOLTA CO LTD [000607] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 07-092747 [JP 9592747]  
FILED: April 18, 1995 (19950418)

VIDEO DISPLAY DEVICE

ABSTRACT

PURPOSE: To exactly **detect** the direction of the head of an observer even for long-time usage and to **change** a **displayed image** corresponding to the **detected** head direction...

...CONSTITUTION: An **HMD** is provided with piezoelectric vibrating gyros 23 and 24 for respectively **detecting vertical** and **horizontal angular** velocities and a **horizontal** sensor 25 for **detecting a vertical** angle. A controller 3 finds the direction of the head of an **HMD** mounting person by integrating the **angular** velocities **detected** by the piezoelectric vibrating gyros 23 and 24 and performs photographing by turning a three...

...head through a three-dimensional camera direction setting means 33. When the head stops, the **calculated vertical** angle and the **output** of the piezoelectric vibrating gyro 23 are corrected based on the angle **detected** by the **horizontal** sensor 25.

22/3,K/18 (Item 18 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2004 JPO & JAPIO. All rts. reserv.

05170531 \*\*Image available\*\*  
**HMD WITH AZIMUTH DETECTION MECHANISM**

PUB. NO.: 08-126031 [JP 8126031 A]  
PUBLISHED: May 17, 1996 (19960517)  
INVENTOR(s): ISHIBASHI KENJI  
APPLICANT(s): MINOLTA CO LTD [000607] (A Japanese Company or Corporation),  
JP (Japan)  
APPL. NO.: 06-254910 [JP 94254910]  
FILED: October 20, 1994 (19941020)

**HMD WITH AZIMUTH DETECTION MECHANISM**

ABSTRACT

PURPOSE: To provide an **HMD** (head mounted **display** by which the azimuth of the head of a viewer is **detected** with simple configuration without limit in the location and a **displayed video image** is **changed** depending on the **detected** azimuth of head...

...CONSTITUTION: In the **HMD** where virtual left and right **images** picked up by a 3-dimension camera are given to left right eyes by left right virtual **image** projectors 201L, 201R, the turning speed of the **HMD** is **detected** by **angular** velocity sensors 238, 239 comprising a vibration gyro using a piezoelectric ceramics and the azimuth of the **HMD** is **calculated** by the **detected angular** velocity to **detect** the azimuth of the head of a person wearing the **HMD**. The azimuth of the 3-dimension camera is set in matching with the azimuth of the head of the person wearing the **HMD**.  
?



30/3,K/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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008205566 \*\*Image available\*\*  
WPI Acc No: 1990-092567/199013  
XRPX Acc No: N90-071469

Pattern recognition device for PCB defect detection - excludes data  
which represents border line of video image when belonging to  
predetermined region

Patent Assignee: SIGMAX KK (SIGM-N)

Inventor: WATANABE M

Number of Countries: 004 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 359838	A	19900328	EP 88115269	A	19880917	199013 B
US 5073952	A	19911217				199202 N
EP 359838	B1	19931118	EP 88115269	A	19880917	199346
DE 3885747	G	19931223	DE 3885747	A	19880917	199401
			EP 88115269	A	19880917	

Priority Applications (No Type Date): EP 88115269 A 19880917

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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EP 359838	A	E 20		
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Designated States (Regional): DE FR GB

EP 359838	B1	E 14	G01N-021/88	
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Designated States (Regional): DE FR GB

DE 3885747	G		G01N-021/88	Based on patent EP 359838
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Pattern recognition device for PCB defect detection - ...

...excludes data which represents border line of video image when  
belonging to predetermined region

...Abstract (Basic): A video **image** signal VD of a workpiece such as lens  
to be checked on defect is obtained by a TV **camera** which is converted  
by an A/D converter into a digital data of a predetermined number of  
bits, e.g. 8 bits. The digital data is stored in an input **image**  
memory comprising a frame memory. The video signal VD is also supplied  
to a timing...

...a superimpose circuit.. The timing control portion generates a clock  
signal in synchronism with a **horizontal** and **vertical** synchronising  
signal portions of the video signal VD, forms an address data ADR in  
response...

...a video address bus so that address data can be sent to a plurality of  
**image** memories connected to the video address bus pixel by pixel...

...Data which represents a border line of a region of a video **image** to be  
observed and which contains large **luminance difference** compared  
with that of a defect to be **detected** is excluded in judgement when it  
belongs to a predetermined region (PT 31) so that it is possible to  
**detect** minute defect or defects reliably even when a position of a  
workpiece is displaced from...

...line of the workpiece is not coincident with that of the master due to a  
**difference** in size therebetween...

...USE - **Detecting** defects in coating of car or lens.

...Abstract (Equivalent): recognition device for a workpiece (2), comprising means (3, 4) for obtaining a first video **image** data of said workpiece, means for obtaining a second video **image** data of a master, means (35) for then excluding **image** data portions of said first and said second **image** data corresponding to border regions thereof, means (28) for subsequently **comparing** the outputs of said excluding means corresponding to said first and second video **image** data inputs and judging means (41) responsive to the **output** of said **comparing** means (35) for judging whether said workpiece includes a defect or defects, characterised in that said excluding means includes means (13) for shifting an original **image** represented by said second **image** data in predetermined directions by a predetermined distance to produce a plurality of shifted **images**, means (35) for forming an overlap **image** data representing an overlap **image** formed by overlapping said original **image** with shifted **images** and means (35) for forming a **difference image** data by differentiating said overlap **image** data and said original **image** data and wherein said excluding means comprises means for producing an **image** data including data of a region to be excluded and a region to be observed by **comparing** said **difference image** data with a predetermined threshold value and means for excluding portions of said first and said second **image** data corresponding to said data of said region to be excluded from an **output** of said producing means...

Title Terms: **PATTERN** ;

...International Patent Class (Additional): **G06K-009/64**

**30/3,K/2 (Item 2 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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007667133 \*\*Image available\*\*

WPI Acc No: 1988-301065/198843

XRPX Acc No: N88-228501

**Half-tone image recognition by normalisation and feature extn. - involves processing of digitised image by local max. and min. filters, histogram processor and multiplier-adder**

Patent Assignee: HITACHI LTD (HITA )

Inventor: KANASAKI M; MISHIMA T; OTA H; TAKATOO M

Number of Countries: 004 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 287995	A	19881026	EP 88106158	A	19880418	198843 B
US 4941192	A	19900710	US 88183689	A	19880419	199030
EP 287995	B1	19940824	EP 88106158	A	19880418	199433
DE 3851173	G	19940929	DE 3851173	A	19880418	199438
			EP 88106158	A	19880418	

Priority Applications (No Type Date): JP 8797134 A 19870420

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 287995	A	E	16		

Designated States (Regional): DE FR GB

EP 287995	B1	E	17	G06K-009/46
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Designated States (Regional): DE FR GB

DE 3851173	G		G06K-009/46	Based on patent EP 287995
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**Half-tone image recognition by normalisation and feature extn...**

**...involves processing of digitised image by local max. and min. filters,**

## histogram processor and multiplier-adder

...Abstract (Basic): is performed by local max. and min. filter circuits (212,213) obtaining an envelope surface **image**, a histogram processing circuit (214), a multiplier/adder (215) and an **image difference calculator** (216...

...The digital **image** stored in memory (211) is processed n times by the local max. filter and m times by the local min. filter before the **difference** between the original **image** and the processed version is **calculated**. The extracted feature parameters are recognised in accordance with a predetermined procedure...

...USE/ADVANTAGE - Esp. for character recognition in **output** from TV **camera**, consistent results are achieved even in industrial applications with broken or broadened characters in fluctuating **brightness** conditions.

...Abstract (Equivalent): A method of recognising a **pattern** in a half-tone **image** comprising the steps of: (a) normalising the **brightness** of the half-tone **image**; (b) extracting local feature parameters from the normalised half-tone **image** at sampling points thereof; and (c) identifying the **pattern** by using the extracted feature parameters in accordance with a predetermined recognition procedure, wherein step (a) includes processing the half-tone **image** by iteratively applying a local maximum or a local minimum filter process, by which the value of the point in the processed **image** corresponding to the centre of a local **image** area is chosen as the maximum or minimum **brightness** in said local **image** area, to extract a background **image** and forming the **difference** between the background **image** and the original half-tone **image**.

...Abstract (Equivalent): The **image** to be processed is subjected to a normalisation process, local **gray** level feature parameters are extracted from the normalised **image** at its sampling points, and the **pattern** is identified by using the extracted feature parameters in accordance with a predetermined recognition procedure. An apparatus for recognising a **pattern** of a **gray** level includes a memory for storing a **gray** level **image** having several **brightness** tone levels, a normalisation circuit for the **brightness** of the **gray** level **image** to be processed, and an extraction circuit...

...The latter extracts local **gray** level feature parameters from the obtained normality **image** at specific points. A recognition circuit identifies the **pattern** by using the feature parameters in accordance with a predetermined. USE - Recognising **pattern** of **gray** level TV **image**.

(  
...Title Terms: **IMAGE** ;

International Patent Class (Main): G06K-009/46

30/3,K/3 (Item 3 from file: 347)  
DIALOG(R)File 347:JAPIO  
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01570975 \*\*Image available\*\*  
OBJECT **DETECTING METHOD**

PUB. NO.: 60-049475 [JP 60049475 A]

PUBLISHED: March 18, 1985 (19850318)  
INVENTOR(s): AOKI NORIO  
TSUJI SABURO  
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company  
or Corporation), JP (Japan)  
APPL. NO.: 58-158359 [JP 83158359]  
FILED: August 29, 1983 (19830829)  
JOURNAL: Section: P, Section No. 374, Vol. 09, No. 174, Pg. 140, July  
19, 1985 (19850719)

OBJECT **DETECTING** METHOD

INTL CLASS: **G06K-009/00**

...JAPIO CLASS: Input **Output** Units); 12.5 (METALS...

ABSTRACT

PURPOSE: To **detect** a 3-dimensional object by irradiating a slit **pattern** to the object and picking up the object from two directions to obtain a virtual straight line connecting a point on the slit **pattern** and an optical **center** and to obtain an intersecting point between the virtual straight line and a slit **luminous** flux surface as well as the correspondence to a point on an **image** pickup surface...

...CONSTITUTION: An object to be **detected** is irradiated by plural pieces of slit **patterns** sent from a light source 1 and picked up by the 1st and 2nd **cameras** 5 and 6 set in **different** directions. The features of this picked-up **image** are extracted by a memory. Then an intersecting point between a virtual straight line and...

... a CPU. These data are stored in a data memory 38, and a corresponding relation **detecting** part 40 **detects** the corresponding relation with the 2nd picture features. Then a 3-dimensional position is **detected** by a position/form recognizing part 41.

30/3,K/4 (Item 4 from file: 347)

DIALOG(R) File 347:JAPIO

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01570974 \*\*Image available\*\*

OBJECT **DETECTING** METHOD

PUB. NO.: 60-049474 [JP 60049474 A]  
PUBLISHED: March 18, 1985 (19850318)  
INVENTOR(s): AOKI NORIO  
TSUJI SABURO  
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company  
or Corporation), JP (Japan)  
APPL. NO.: 58-158358 [JP 83158358]  
FILED: August 29, 1983 (19830829)  
JOURNAL: Section: P, Section No. 374, Vol. 09, No. 174, Pg. 140, July  
19, 1985 (19850719)

OBJECT **DETECTING** METHOD

INTL CLASS: **G06K-009/00**

...JAPIO CLASS: Input **Output** Units); 12.5 (METALS...

ABSTRACT

PURPOSE: To attain a **detecting** method for a 3-dimensional object by

irradiating a slit **pattern** to the object and picking up the object from **different** directions to obtain a virtual straight line connecting a point on the slit **pattern** and an optical **center** and obtaining an intersecting point between said straight line and a slit **luminous** flux plane...

...CONSTITUTION: An object to be **detected** is irradiated by plural pieces of slit **patterns** through a slit light source. Then the object is picked up by the 1st and 2nd **cameras** 5 and 6 from **different** directions. The features of the object **image** are extracted via a memory and fed to means 37 and 38 which obtain the...

... said virtual straight lines and a slip light speed plane are obtained from a slit **luminous** flux plane equation by a means 39. The coordinates of these intersecting points are stored in the 1st and 2nd coordinate data register parts, and the corresponding relations are **detected** between these coordinates 40 and 41. Then a 3-dimensional position is **detected** by a position/form recognizing part 44.

30/3,K/5 (Item 5 from file: 347)

DIALOG(R) File 347:JAPIO

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01160387 \*\*Image available\*\*  
DIGITIZER

PUB. NO.: 58-097787 [JP 58097787 A]

PUBLISHED: June 10, 1983 (19830610)

INVENTOR(s): KUWABARA HAJIME

OHASHI FUMITAKA

APPLICANT(s): YOKOGAWA HOKUSHIN ELECTRIC CORP [000650] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 56-196065 [JP 81196065]

FILED: December 04, 1981 (19811204)

JOURNAL: Section: P, Section No. 220, Vol. 07, No. 198, Pg. 157,  
September 02, 1983 (19830902)

INTL CLASS: G06K-011/06 ; G06F-003/03

...JAPIO CLASS: Input Output Units)

...JAPIO KEYWORD: Charge Transfer Elements, CCD & BBD)

#### ABSTRACT

...CONSTITUTION: A head **calculates** an algebraical sum of the **luminance** of three **detecting** elements which are included within a **pattern** formed by **image** sensors 1-3 and then shifts in the direction where the algebraical sum is small...

...a result, the head tracks accurately a line without having any shift out of the **center** of the line. In addition, the graphic feature points such as an angle, a branche, etc. are **detected** and stored from a **change** of the traveling direction and the existence of a **pattern** of low **luminance** in the directions excepting the traveling direction.

?

35/3,K/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

015681599 \*\*Image available\*\*  
WPI Acc No: 2003-743788/200370  
XRAM Acc No: C03-204199  
XRPX Acc No: N03-595653

**New apparatus, useful for detecting metallic nanoparticles on a substrate, with or without chemical signal amplification of the metallic nanoparticles**

Patent Assignee: BUCKINGHAM W (BUCK-I); CORK W (CORK-I); MORROW D (MORR-I); PATNO T (PATN-I); WEBER M (WEBE-I); NANOSPHERE INC (NANO-N)  
Inventor: BUCKINGHAM W; CORK W; MORROW D; PATNO T; WEBER M  
Number of Countries: 100 Number of Patents: 002  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030068638	A1	20030410	US 2001310102	P	20010803	200370 B
			US 2002366732	P	20020322	
			US 2002210959	A	20020802	
WO 200353535	A2	20030703	WO 2002US24604	A	20020802	200370

Priority Applications (No Type Date): US 2002210959 A 20020802; US 2001310102 P 20010803; US 2002366732 P 20020322

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030068638	A1		27	C12Q-001/68	Provisional application US 2001310102

Provisional application US 2002366732

WO 200353535 A2 E B01D-000/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

Abstract (Basic):

... module and substrate holder are proximate to one another. The processor controls the imaging, illumination, **input** or **output** module...

Technology Focus:

TECHNOLOGY **FOCUS** - ...

...than 70 mm from the substrate holder. The processor, memory device, substrate holder, imaging, illuminating, **output**, **input** and power module are contained within one housing. The type of lighting from the illumination...a) automatically determining **patterns** for at least a portion of the spots detected; and...

...b) automatically comparing the **patterns** with predetermined **patterns** for wells...

...comprises acquiring several images to obtain an optimal image using an image device with a **field** of **view**. Correcting grayscale distortion comprises applying a compensation model for **brightness** across the **field** of **view** for the image device. Correcting spatial distortion comprises...

...centroids of the spots adjacent to one another. Determining configuration of the wells comprises comparing **patterns** in the determined spacing with predetermined **patterns** of spacing for known configuration of wells and assigning configurations for the wells.

35/3,K/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

015378606 \*\*Image available\*\*

WPI Acc No: 2003-439544/200341

XRPX Acc No: N03-350736

**Lens-evaluating method, involves adjusting position of test sheet to a position corresponding to focus of lens by detecting test- pattern image while moving the test sheet in direction along axis of lens**

Patent Assignee: SEIKO EPSON CORP (SHIH )

Inventor: KITABAYASHI M; KOJIMA K; UMEMURA S

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030048436	A1	20030313	US 2002232399	A	20020903	200341 B
JP 2003075295	A	20030312	JP 2001266444	A	20010903	200341

Priority Applications (No Type Date): JP 2001266444 A 20010903

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030048436	A1		37	G01B-009/00	
JP 2003075295	A		20	G01M-011/02	

**Lens-evaluating method, involves adjusting position of test sheet to a position corresponding to focus of lens by detecting test- pattern image while moving the test sheet in direction along axis of lens**

Abstract (Basic):

... method involves adjusting a position of a test sheet to a position corresponding to a **focus** of the lens by detecting the test- **pattern** image while moving the test sheet back and forth in the direction along an optical...

... The method involves illuminating imaging light having a test- **pattern** image on a screen through the lens to form a projected image. The **brightness** of the test - **pattern** image displayed on the screen by image- **capturing** device is detected and the input level on the basis of detected **brightness** of the test- **pattern** image is then calculated. The evaluated value of resolution is calculated by adjusting a position of a test sheet to a position corresponding to a **focus** of the lens by detecting the test- **pattern** image while moving the test sheet back and forth in the direction along an optical...

...Title Terms: **FOCUS** ;

35/3,K/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

010691649 \*\*Image available\*\*

WPI Acc No: 1996-188605/199619

XRPX Acc No: N96-157702

**Integrity checking for automated cytological sample microscope - has test slide with patterns used to allow tests on linearity, modulation**

**transfer function and signal to noise ratio**

Patent Assignee: NEOPATH INC (NEOP-N)

Inventor: FROST K L; HAYENGA J W; ORTYN W E

Number of Countries: 021 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9609599	A1	19960328	WO 95US11147	A	19950901	199619 B
AU 9535018	A	19960409	AU 9535018	A	19950901	199629
US 5581631	A	19961203	US 94309078	A	19940920	199703
EP 782735	A1	19970709	EP 95931678	A	19950901	199732
			WO 95US11147	A	19950901	
ES 2114509	T1	19980601	EP 95931678	A	19950901	199829
JP 10506460	W	19980623	WO 95US11147	A	19950901	199835
			JP 96510908	A	19950901	
AU 721417	B	20000706	AU 9535018	A	19950901	200038

Priority Applications (No Type Date): US 94309078 A 19940920

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 9609599	A1	E 42	G06K-009/00	
			Designated States (National):	AU CA JP
			Designated States (Regional):	AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
AU 9535018	A		G06K-009/00	Based on patent WO 9609599
US 5581631	A	19	G06K-009/00	
EP 782735	A1	E 42	G06K-009/00	Based on patent WO 9609599
			Designated States (Regional):	AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
ES 2114509	T1		G06K-009/00	Based on patent EP 782735
JP 10506460	W	37	G01N-021/27	Based on patent WO 9609599
AU 721417	B		G06K-009/00	Previous Publ. patent AU 9535018
				Based on patent WO 9609599

... has test slide with patterns used to allow tests on linearity, modulation transfer function and signal to noise ratio

...Abstract (Basic): controls the whole system. A test slide is available to be automatically positioned in the field of view . The slide contains a number of test patterns to allow different performance tests...

...A neutral density wedge is inserted in the field of view to establish a desired illumination level. Images are obtained with different illuminations to form a linearity measure. A modulation transfer function is determined from line contrasts . Similar tests allow signal to noise ratios to be calculated...

...Abstract (Equivalent): a first input receiving an image of the calibration and test target and a second input receiving an output from the sensing means...

...Title Terms: PATTERN ;

?



File 9:Business & Industry(R) Jul/1994-2004/Mar 12  
     (c) 2004 Resp. DB Svcs.  
 File 15:ABI/Inform(R) 1971-2004/Mar 13  
     (c) 2004 ProQuest Info&Learning  
 File 16:Gale Group PROMT(R) 1990-2004/Mar 15  
     (c) 2004 The Gale Group  
 File 20:Dialog Global Reporter 1997-2004/Mar 15  
     (c) 2004 The Dialog Corp.  
 File 47:Gale Group Magazine DB(TM) 1959-2004/Mar 15  
     (c) 2004 The Gale group  
 File 75:TGG Management Contents(R) 86-2004/Mar W1  
     (c) 2004 The Gale Group  
 File 80:TGG Aerospace/Def.Mkts(R) 1986-2004/Mar 15  
     (c) 2004 The Gale Group  
 File 88:Gale Group Business A.R.T.S. 1976-2004/Mar 12  
     (c) 2004 The Gale Group  
 File 98:General Sci Abs/Full-Text 1984-2004/Feb  
     (c) 2004 The HW Wilson Co.  
 File 112:UBM Industry News 1998-2004/Jan 27  
     (c) 2004 United Business Media  
 File 141:Readers Guide 1983-2004/Feb  
     (c) 2004 The HW Wilson Co  
 File 148:Gale Group Trade & Industry DB 1976-2004/Mar 09  
     (c)2004 The Gale Group  
 File 160:Gale Group PROMT(R) 1972-1989  
     (c) 1999 The Gale Group  
 File 275:Gale Group Computer DB(TM) 1983-2004/Mar 15  
     (c) 2004 The Gale Group  
 File 264:DIALOG Defense Newsletters 1989-2004/Mar 12  
     (c) 2004 The Dialog Corp.  
 File 369:New Scientist 1994-2004/Mar W1  
     (c) 2004 Reed Business Information Ltd.  
 File 370:Science 1996-1999/Jul W3  
     (c) 1999 AAAS  
 File 484:Periodical Abs Plustext 1986-2004/Mar W1  
     (c) 2004 ProQuest  
 File 553:Wilson Bus. Abs. FullText 1982-2004/Feb  
     (c) 2004 The HW Wilson Co  
 File 570:Gale Group MARS(R) 1984-2004/Mar 15  
     (c) 2004 The Gale Group  
 File 608:KR/T Bus.News. 1992-2004/Mar 15  
     (c)2004 Knight Ridder/Tribune Bus News  
 File 620:EIU:Viewswire 2004/Mar 12  
     (c) 2004 Economist Intelligence Unit  
 File 613:PR Newswire 1999-2004/Mar 15  
     (c) 2004 PR Newswire Association Inc  
 File 621:Gale Group New Prod.Annou.(R) 1985-2004/Mar 15  
     (c) 2004 The Gale Group  
 File 623:Business Week 1985-2004/Mar 12  
     (c) 2004 The McGraw-Hill Companies Inc  
 File 624:McGraw-Hill Publications 1985-2004/Mar 15  
     (c) 2004 McGraw-Hill Co. Inc  
 File 634:San Jose Mercury Jun 1985-2004/Mar 13  
     (c) 2004 San Jose Mercury News  
 File 635:Business Dateline(R) 1985-2004/Mar 13  
     (c) 2004 ProQuest Info&Learning  
 File 636:Gale Group Newsletter DB(TM) 1987-2004/Mar 15  
     (c) 2004 The Gale Group  
 File 647:CMP Computer Fulltext 1988-2004/Feb W5  
     (c) 2004 CMP Media, LLC  
 File 696:DIALOG Telecom. Newsletters 1995-2004/Mar 13

(c) 2004 The Dialog Corp.  
File 674:Computer News Fulltext 1989-2004/Mar W1  
(c) 2004 IDG Communications  
File 810:Business Wire 1986-1999/Feb 28  
(c) 1999 Business Wire  
File 813:PR Newswire 1987-1999/Apr 30  
(c) 1999 PR Newswire Association Inc

Set	Items	Description
S1	4335	(HAT OR HEAD OR HELMET) (3N) MOUNT? (3N) (CAMERA? OR LENS) OR - HMDS OR HMD
S2	370	INTEGRAT? (3N) HELMET (3N) DISPLAY (3N) SIGHT? (3N) SYSTEM? OR IHA- DSS OR INTEGRAT? (3N) HELMET (3N) UNIT
S3	2975104	IMAGE??
S4	9684792	DISPLAY? OR OUTPUT OR SHOW
S5	101705	(INPUT OR CAPTUR? OR ENTER? OR RECALL?) (3N) S3
S6	27853	(TESTS OR TESTING OR TESTED OR TESTED OR EVALUAT? OR ASSES? OR DETERMIN? OR CALCULAT? OR COMPUT???? OR DETECT? OR COMPAR? OR ANAL???? OR STUDY OR EXPERIMENT?) (7N) S3 (5N) S4
S7	1046	(DIFFERENCE? OR CHANG? OR OFFSET OR DISSIMILARITY OR UNLIK- E? OR DIFFERENT) (3N) S6
S8	1684896	PATTERN? OR TREND() FORMATION
S9	1720661	BRIGHTNESS OR LUMIN? OR CONTRAST?
S10	16140822	ANGULAR? OR CENTER? OR FOCUS? OR HORIZONT? OR VERTICAL? OR GRAY OR GREY OR BOUNDAR? OR FIELD(2N) VIEW OR BITMAP
S11	978482	CAMERA?? OR CCD OR CCD(3N) CAMERA?
S12	12625	FLIR OR FORWARD() LOOK?() (IR OR INFRARED) (3N) RADAR?
S13	12580	AU=(RASH, C? OR HARDING, T? OR HSIEH, S? OR BEASLEY, H? OR MARTIN, J? OR REYNOLDS, R? OR DILLARD, R? OR RASH C? OR HARDI- NG T? OR HSIEH S? OR BEASLEY H? OR MARTIN J? OR REYNOLDS R? OR DILLARD R?)
S14	0	(S1 OR S2) AND S13
S15	2	(S1 OR S2) (S) S7
S16	2	RD S15 (unique items)
S17	0	(S1 OR S2) (5N) S3 (S) S8 (S) S9 (S) S10
S18	1396	(S1 OR S2) (S) S11
S19	0	S18 (S) S8 (S) S9 (S) S10
S20	288	S18 (S) (S8 OR S9 OR S10)
S21	165	S20 (10N) S4
S22	4	S21 (S) S12
S23	4	S22 NOT S15
S24	4	RD S23 (unique items)
S25	0	S21 (10N) (CAPTUR? OR RECALL?)
S26	161	S21 NOT (S22 OR S15)
S27	107	S26 AND PY=2001:2004
S28	54	S26 NOT S27
S29	34	RD S28 (unique items)

16/3,K/1 (Item 1 from file: 80)

DIALOG(R)File 80:TGG Aerospace/Def.Mkts(R)  
(c) 2004 The Gale Group. All rts. reserv.

01233165 Supplier Number: 41766715

**New eye for Apache**

Defence Helicopter, v9, n6, p28

Jan, 1991

Language: English Record Type: Abstract

Document Type: Magazine/Journal; Trade

**ABSTRACT:**

Martin Marietta's Pilot Night Vision **System** (PNVS) incorporating an **image** intensifier permits the pilot wearing an Integrated **Helmet Display** and **Sighting System** to **change** between thermal to **image** intensified **imagery**. Flight **tests** of an AH-64 Apache with the integrated image intensifier integrated into the PNVS were...

16/3,K/2 (Item 1 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2004 The Gale Group. All rts. reserv.

13392047 SUPPLIER NUMBER: 68323430 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**How A CYBERNETIC CAMERA TRIGGERED BY THE SUBCONSCIOUS COULD TACKLE IMAGE OVERLOAD. (image industry research) (Industry Overview)**

LAKE, DON

Advanced Imaging, 15, 11, 21

Nov, 2000

DOCUMENT TYPE: Industry Overview

ISSN: 1042-0711

LANGUAGE:

English RECORD TYPE: Fulltext

WORD COUNT: 1484 LINE COUNT: 00112

... eliminated by the proper processing at the display. You'd have it processed to automatically **detect** the **offset** from the horizon and rotate accordingly, before **displaying** the composite **image**.

Anyway, the whole issue here is to ensure that the right pictures are captured.

A...

24/3,K/1 (Item 1 from file: 20)  
DIALOG(R)File 20:Dialog Global Reporter  
(c) 2004 The Dialog Corp. All rts. reserv.

34193219 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**Event Brief of Q4 2003 Kopin Corporation Earnings Conference Call - Part 1**  
FAIR DISCLOSURE WIRE  
February 17, 2004  
JOURNAL CODE: WFDW LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 4544

... NanoPockets technology. 3. CyberDisplay: 1. Co. introduced a total of six ultra-small, high-resolution **displays** and viewfinder systems in the digital still **cameras**, thermal imaging and consumer electronics, including **head - mounted displays** and personal entertainment systems. 2. Color filter **display** continues to grow, and the quality and time-to-market were a proposition of a...

24/3,K/2 (Item 1 from file: 264)  
DIALOG(R)File 264:DIALOG Defense Newsletters  
(c) 2004 The Dialog Corp. All rts. reserv.

00005850  
**USAF & ARMY FIELD AIRBORNE EO; NEWER SYSTEMS IN DEVELOPMENT**  
WORLD AEROSPACE WEEKLY  
September 10,1993 DOCUMENT TYPE: NEWSLETTER  
PUBLISHER: FORECAST INTERNATIONAL DMS  
LANGUAGE: ENGLISH WORD COUNT: 2110 RECORD TYPE: FULLTEXT

(c) FORECAST INTERNATIONAL All Rights Reserved

TEXT:

...pods. The AAQ-13 navigation pod houses a wide-field-of-view, forward-looking infrared ( **FLIR** ); Texas Instruments terrain-following radar (TFR); control computer; power supply; and environmental control unit. The...

...targeting pod is made up of a stabilization system, wide and narrow field of view **FLIR** sensor, automatic dual-mode trackers, missile boresight correlator for target handoff to Maverick (IR) missiles...

...LANTIRN pods with features developed for

Martin's follow-on, LANTIRN II, a second-generation **FLIR** that provides a much sharper image for the cockpit HUD and displays, and an automatic...

...are the Westinghouse AVQ-22 Low-Light Level TV (LLLTV) and Hughes Aircraft AAQ-6 **FLIR** scanner.

In January 1992, Loral Fairchild Systems was awarded a contract for the development and...assembly. The turret contains the Texas Instruments AAQ-9 infrared detection set (Forward-Looking InfraRed ( **FLIR** )) and a Litton neodymium YAG pulsed laser target designator/rangefinder. On F-4 aircraft (F...starters.

\* CAS F-16 - Last year, the USAF planned to procure a new helmet-steered **FLIR** to equip F-16C Block 30 aircraft that would be modified for the CAS mission...

...by Texas Instruments for the F-117A stealth fighter, IRADS consists of two sensors: a **FLIR** located on the upper-fuselage below the cockpit windscreen and an under-fuselage downward-looking...

...reports describe the operation of IRADS as follows: the pilot acquires the target using the **FLIR** 's wide **field of view** mode, with the image appearing on a monochrome CRT **display** in the cockpit. Switching to the narrow **field of view**, the pilot designates a reference point at which the automatic tracking system is engaged. As...

...The Hughes Night Vision System (HNVS), designated the AAQ-16, is a high-performance, lightweight **FLIR** system that provides navigation and target recognition capabilities ...Cobra-NITE) augments the existing M-65 TOW weapons sighting system with a low-cost **FLIR** sensor and guidance hardware that enables Cobra crews to successfully fire and guide the TOW...

...M1 Abrams tank Thermal Imaging System and the M2/M3 Bradley Integrated Sight Unit's **FLIR** TOW missile tracker to form the basis for the **FLIR** and missile tracking/guidance equipment. Because of US Army plans to retire the AH-1...

...by the late 1990s, the Army terminated additional procurement and installation of the C-NITE **FLIR** upgrade beyond the 52 systems purchased. These systems are installed in AH-1S Cobras stationed...

...as the Target Acquisition System/Night Vision Pilotage System (TAS/NVPS)) is a second-generation **FLIR** /television targeting system in development for the Boeing/Sikorsky RAH-66 (LH). EOSS provides a...

...battlefield in less than 10 seconds and classify and prioritize targets. The EOSS's navigation **FLIR** sensor is located above the targeting **FLIR**, with both housed within the nose of the helicopter. The navigation **FLIR** provides a **display** overlay to the Kaiser/Hamilton Standard **Helmet Integrated Display Sight System** (HIDSS) worn by both crew members. The **helmet** combines image intensifier tubes for night vision with CRT for raster and stroke graphics displays...

...four-year period; the first was delivered in late 1991. Westinghouse Defense's WF 360 **FLIR** turret was selected for MAGIC DRAGON. The WF 360 is expected to be fitted with a laser rangefinder and possibly a TV camera. The **FLIR** element will be integrated with a IR Line Scanner supplied by Recon Optical.

\* Mast-Mounted...

...s main rotor mast, the MMS is an electro-optical sighting system consisting of a **FLIR** sensor, TV sensor, and laser rangefinder/designator. The multisensor nature of the MMS allows the...

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00005823

**FIELDING AIRBORNE EO: US NAVY CONTINUES TO PROCURE CAPABILITY**

WORLD AEROSPACE WEEKLY

September 3, 1993 DOCUMENT TYPE: NEWSLETTER

PUBLISHER: FORECAST INTERNATIONAL DMS

LANGUAGE: ENGLISH

WORD COUNT: 1864

RECORD TYPE: FULLTEXT

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TEXT:

...third of  
the F/A-18 force deployed to the Gulf were equipped with a **FLIR** .

The Gulf War demonstrated the value of airborne EO in mission effectiveness, a fact that...

...Recognition & Multisensor) system that equips 350+ Grumman A-6E Intruder attack bombers. It comprises a **FLIR** , laser spot tracker, and laser ranger/designator. The first units were delivered in 1979, and...

...specifically for the McDonnell Douglas F/A-18 Hornet, the Loral Aeronutronics AAS-38 targeting **FLIR** system, dubbed NITE HAWK, entered production in 1983. During the Gulf War, about 50 of...the navigational half of the two-pod system that includes the Loral AAS-38A targeting **FLIR** /laser designation pod. Currently, the Navy plans to acquire enough TINS pods to outfit two thirds of its night attack F/A-18 fleet.

\* AN/AAR-51 **FLIR** Set. The GEC Sensors Ltd AAR-51 **FLIR** navigation set is being fitted to USMC AV-8B Harrier II night attack variants. The pilot uses the fixed **FLIR** image on the HUD for detail and scans outside the cockpit with the goggles for...

...dependent upon the use of night vision goggles by the pilot, in tandem with the **FLIR** . Also, the night attack package for the AV-8B does not include a laser designator the FY94 budget request.

\* AN/AAQ-16 **FLIR** - The Hughes AAQ-16 **FLIR** turret is one of the most versatile helicopter EO systems in US service. The Navy accumulated considerable experience with **FLIR** -equipped SH-60Bs during the Gulf War. For Operation Desert Storm, five SH-60B LAMP MK IIIs were fitted with the AAQ-16 Block 1 **FLIR** systems. Due to the need to expedite the installation, the **FLIR** was installed as an independent system with its own cockpit display.

The US Marine Corps...

...PNVS subsystem used on the AH-64A Apache attack helicopter and also featured the Apache **IHADSS** ( **Integrated Helmet and Display Sighting System** ). However, for budgetary reasons, HNVS was dropped and the Corps selected the Hughes AAQ-16...

...1992.

\* AN/AAS-36 The Texas Instruments AAS-36 Infrared Detection Set is a turreted **FLIR** system installed on the Navy's P-3C long-range ASW patrol aircraft. Deliveries were...

...Warfare Improvement Program that will affect about 70 aircraft.

\* AN/AAS-37 This Texas Instruments **FLIR** /laser rangefinder/designator equips the Marine Corps OV-10D FAC aircraft. The system was installed...

...late 1980s.

\* OR-89/AA/OR-263 - A third Texas Instruments program, the OR-89 **FLIR** turret, equipped the Lockheed S-3A carrier-based ASW aircraft. An improved version, designated OR...

...view optics (DVO), a monocular system with a flip-over binocular eyepiece/headrest, but adds **FLIR** (Forward Looking InFraRed), day TV viewing, and laser rangefinder/designation capabilities.

Full-scale development of...Osprey tilt-rotor aircraft. Designated as the Infrared Detection Set (IDS), the system provides enhanced **FLIR** capabilities for flight in poor visibility and nighttime conditions. Two versions of the IDS have...

...fighters. In this application, the sensor looks forward along a fixed line of sight. The **FLIR** imagery is then projected onto the pilot's head-up display.

\* HH-60 FLIRS - Both...

...equipped to perform Search and Rescue (SAR) missions and both have a need for a **FLIR** to aid in acquiring downed subjects or targets and displaying the imagery to the cockpit and to para-rescue swimmers. The Coast Guard has test flown the **FLIR** System Series 2000F **FLIR** on the HH-60J Jayhawk. The Navy also wants to install a turret **FLIR** with a laser designator/ranger for its HH-60H SAR helicopters as part of a...

...total  
of 27 new aircraft are planned for the remainder of the decade.

\* SH-60B **FLIR** - Last year, Congress directed that if excess FY92 funds become available, the Navy must allocate \$5 million for initiating the SH-60B LAMPS MK III **FLIR** effort. The program will be for about 40 contingency **FLIR** kits to provide a fast response capability to install FLIRs on a small portion of Seahawks as operations require. The project is still in source selection. The **FLIR** pod installation options center on mounting the system as a chin mount or to a...

...the Navy to accelerate retirement of the A-6E Intruder. This program will include a **FLIR** system mated to a laser rangefinder/designator. With the availability of the AAS- ...Navy will select from the older A models in the inventory.

\* F/A-18E/F **FLIR** /IRSTS - The new E/F variant of the Hornet will be equipped with an advanced...

...mode to provide beyond-visual range target detection and tracking and possibly a helmet-mounted **FLIR** display to increase the pilot's situational awareness. Finally, with

the emphasis on minimizing the...

24/3,K/4 (Item 3 from file: 264)

DIALOG(R)File 264:DIALOG Defense Newsletters  
(c) 2004 The Dialog Corp. All rts. reserv.

00005680

LITENING OFFERS NAVIGATION, TARGETING FLIR & LASER DESIGNATION IN ONE  
WORLD AEROSPACE WEEKLY

August 13,1993 DOCUMENT TYPE: NEWSLETTER

PUBLISHER: FORECAST INTERNATIONAL DMS

LANGUAGE: ENGLISH WORD COUNT: 755 RECORD TYPE: FULLTEXT

(c) FORECAST INTERNATIONAL All Rights Reserved

TEXT:

...optics pod for fighter and  
light helicopter applications. Litening combines both a navigation and  
targeting **FLIR** and laser rangefinder/designator into one pod for  
day/night and adverse weather operations.

The...

...McDonnell Douglas F/A-18C/D, with final selection expected in September  
1993.

Second-Generation **FLIR**

Litening features a second generation Forward Looking InfraRed ( **FLIR** )  
sensor with three fields of view (FOV): wide for scanning and  
navigation, medium for target recognition and identification, and narrow  
for targeting. The **FLIR** is mounted on a four-axis stabilized platform  
that provides a 10 degree per second...

...element detector array that operates in the 8-12  
micron range.

In addition to the **FLIR** subsystem, the pod employs a TV CCD (Charge  
Coupled Device) with two fields of view...

...of an F-16 or  
F/A-18, respectively.

In combining both navigation and targeting **FLIR** capabilities, the  
pilot/flight crew can select between these two primary modes, slew the  
sensor may want - radar, head-up **display** (HUD),  
helmet-mounted **display** ( **HMD** ), or cockpit multifunction **display** .

In terms of design economics, miniaturization allows Rafael to package  
the system as a single...

...would seem to have minimal affect on the system's  
operational performance. The navigation/targeting **FLIR** and laser  
designation features, combined with a stated unit price of about US\$1  
million...

...current US  
and European export systems.

IAF to Flight Test

The IAF will finalize its **FLIR** pod requirements in January 1994,



following completion of Litening flight tests, independent of which  
aircraft...  
?

29/3,K/1 (Item 1 from file: 9)  
DIALOG(R)File 9:Business & Industry(R)  
(c) 2004 Resp. DB Svcs. All rts. reserv.

2769727 Supplier Number: 02769727 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**Stamp-Sized Ferroelectric LCD Can Power 50-in. TV Screens**  
(Displaytech Inc rolls out LightCaster microdisplay panel technology,  
considered the 1st and only consumer high-resolution Ferroelectric liquid  
crystal display)  
Electronic Design, v 48, n 6, p 26  
March 20, 2000  
DOCUMENT TYPE: Journal ISSN: 0013-4872 (United States)  
LANGUAGE: English RECORD TYPE: Fulltext  
WORD COUNT: 484

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:

...has been the enabling of both very large-screen and very small-screen high-resolution **displays** with optimal clarity, **field of view**, and performance. That's because achieving these qualities would result in a host of new consumer products. These would range from wall-hanging high-definition televisions (HDTVs), projection TVs, video **cameras**, and **head - mounted displays** to advanced mobile electronics and video applications. A variety of technologies have been proposed to...

29/3,K/2 (Item 1 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2004 ProQuest Info&Learning. All rts. reserv.

00456025 89-27812  
**NASA, McDonnell Douglas Test Helmet-Mounted Landing System**  
Phillips, Edward H.  
Aviation Week & Space Technology v130n25 PP: 126-127 Jun 19, 1989  
ISSN: 0005-2175 JRNL CODE: AWS

...ABSTRACT: determine the feasibility of performing safe and accurate manual approaches and landings using a video **camera** and **helmet - mounted display**. Potential applications for the system include: 1. current military aircraft in which crew eye protection...

... are mounted under the weather radar unit in the aircraft's nose. Data from the **cameras** are processed and **displayed** onto binocular optics installed in the helmet. The fixed and multiple sensors provide high reliability...

29/3,K/3 (Item 1 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

08010862 Supplier Number: 65771445  
**ENC-03J bimorph piezoelectric gyros.**  
Journal of the Electronics Industry, p78(1)  
Feb, 1999  
Language: English Record Type: Abstract  
Document Type: Magazine/Journal; Trade

ABSTRACT:

...high sensitivity. It can be used for detecting involuntary operator-caused shaking of camcorders and **angular** velocity of still **cameras** , pointers and **head - mounted displays** .

**29/3,K/4** (Item 2 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)

(c) 2004 The Gale Group. All rts. reserv.

07863687 Supplier Number: 65573485 (USE FORMAT 7 FOR FULLTEXT)

**Optics offerings take a bow at display confab.(Industry Trend or Event)**

Lieberman, David

Electronic Engineering Times, p32

Sept 25, 2000

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 1380

... cellular phone displays; and Type III with prism optics and a holographic lens for AR **displays** . All use LEDs for edge lighting.

Type I optics for **HMDs** feature high resolution, high contrast and large field-of-view (FOV). The Type I prototype...

**29/3,K/5** (Item 3 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)

(c) 2004 The Gale Group. All rts. reserv.

07251483 Supplier Number: 61557979 (USE FORMAT 7 FOR FULLTEXT)

**Stamp-Sized Ferroelectric LCD Can Power 50-in. TV Screens.(Company Business and Marketing)**

Ajluni, Cheryl

Electronic Design, v48, n6, p26

March 20, 2000

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 475

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...has been the enabling of both very large-screen and very small-screen high-resolution **displays** with optimal clarity, **field of view** , and performance. That's because achieving these qualities would result in a host of new consumer products. These would range from wall-hanging high-definition televisions (HDTVs), projection TVs, video **cameras** , and **head - mounted displays** to advanced mobile electronics and video applications. A variety of technologies have been proposed to...

**29/3,K/6** (Item 4 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)

(c) 2004 The Gale Group. All rts. reserv.

07246803 Supplier Number: 61616884 (USE FORMAT 7 FOR FULLTEXT)

**European HMDs get ready for battle.(Brief Article)**

COOK, NICK

Interavia Business & Technology, v55, n640, p43

March, 2000

Language: English Record Type: Fulltext

Article Type: Brief Article

Document Type: Magazine/Journal; Trade  
Word Count: 1665

... Sweden under a contract awarded in 1998. The system, comprising monocular helmet with integral colour **camera** , helmet **display** electronics unit and optical head tracker was specially optimised for the JAS 39 Gripen. It...

**29/3,K/7 (Item 5 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

06963292 Supplier Number: 58342560 (USE FORMAT 7 FOR FULLTEXT)  
**new products.**

Lasers & Optronics, v18, n11, p12  
Nov, 1999

Language: English Record Type: Fulltext  
Document Type: Tabloid; Academic Trade  
Word Count: 5362

... computer transfer. In addition the LE-D offers an optional 6.4-inch LCD color **display** for easy subject viewing. The **display** is conveniently **mounted** on the **camera** 's remote **head** for simple microscope attachment. Optronics, 175 Cremona Drive, Goleta, CA 93117.

\* Write in 126 or...

**29/3,K/8 (Item 6 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

06633468 Supplier Number: 55746082 (USE FORMAT 7 FOR FULLTEXT)  
**USMarines aim to give Cobra more venom.**

Penney, Stewart  
Flight International, p25  
Sept 8, 1999  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 330

... and can four external 292 litre ferry tanks.  
Initial testing has begun of the new **Integrated Helmet Display** and **Sighting System** being developed by Marconi Electronic **Systems** from its Viper 2 **helmet** . The **helmet** uses two image intensified cameras in place of night vision goggles to generate a wider 40i **horizontal** and 30i **vertical** **field of view** . It also **displays** head-up flight guidance.

The USMC hopes to add television and FLIR imaging capability to...

**29/3,K/9 (Item 7 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

05952131 Supplier Number: 53215755 (USE FORMAT 7 FOR FULLTEXT)  
**Xybernaut Corporation (Nasdaq) Announces Worldwide Comdex Webcast to Introduce MA IV(TM) Wearable Computer.**

PR Newswire, p2670  
Nov 13, 1998

Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 895

... or in a sleeve on a belt, or a full color VGA miniature head-mounted **display** complete with an integrated mike and tiny color video **camera**. The **head - mounted display** offers the wearer the same perceived image as a conventional computer monitor at normal desktop...

29/3,K/10 (Item 8 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

05904928 Supplier Number: 53121308 (USE FORMAT 7 FOR FULLTEXT)  
**Xybernaut Corporation and Hewlett Packard Announce Worldwide Launch of New Wearable Computer.**  
PR Newswire, p9055  
Oct 26, 1998  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 782

... or in a sleeve on a belt, or a full color VGA miniature head mounted **display** complete with an integrated mic and tiny color video **camera**. The **head mounted display** offers the wearer the same perceived image as a conventional computer monitor at normal desk...

29/3,K/11 (Item 9 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

05817111 Supplier Number: 50323768 (USE FORMAT 7 FOR FULLTEXT)  
**Mini displays look for larger showing**  
Lieberman, David  
Electronic Engineering Times, n1026, p123  
Sept 21, 1998  
Language: English Record Type: Fulltext  
Article Type: Article  
Document Type: Magazine/Journal; Trade  
Word Count: 1951

... MEMS displays are reflective devices used primarily in the electronic-projector market, with a coming **focus** on rear-projection monitors for both computer **output** and TVs. The emissive types are **focused** primarily on so-called personal **displays** that are brought up to the eye for viewing or worn on the head in such applications as portable fax viewers, Web readers, **camera** /camcorder viewfinders, **head - mounted displays**, electronic gaming goggles and wearable monitors. The LCDs, most versatile of the bunch, are targeting...

29/3,K/12 (Item 10 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

02346632 Supplier Number: 43077389 (USE FORMAT 7 FOR FULLTEXT)  
**Rehabilitation for Visually Impaired Often Overlooked**  
Ophthalmology Times, p18

June 15, 1992  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 1200

... National Aeronautics and Space Administration (NASA). Dr. Patz explained that this apparatus uses a tiny **lens** and television **camera mounted** on a video **display head** -set and worn like a

**29/3,K/13 (Item 1 from file: 47)**  
DIALOG(R)File 47:Gale Group Magazine DB(TM)  
(c) 2004 The Gale group. All rts. reserv.

03886156 SUPPLIER NUMBER: 13858807 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Virtual reality: from toys to research tools. (includes related article)**  
Studt, Tim  
R & D, v35, n4, p18(4)  
March, 1993  
ISSN: 0746-9179 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 1974 LINE COUNT: 00160

... with a stereo camera-equipped submersible that is remotely controlled by an operator viewing the **camera output** on an **HMD**. "We're using this system to develop a robotic vehicle for exploring the surface of ...

**29/3,K/14 (Item 2 from file: 47)**  
DIALOG(R)File 47:Gale Group Magazine DB(TM)  
(c) 2004 The Gale group. All rts. reserv.

03620185 SUPPLIER NUMBER: 11249252 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Electronic expansion of human perception. (virtual reality)**  
Robinett, Warren  
Whole Earth Review, n72, p16(6)  
Fall, 1991  
ISSN: 0749-5056 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 3788 LINE COUNT: 00290

... from a pair of video cameras to the left- and right-eye fields of a **Head - Mounted Display**, with the **cameras mounted** in a robot head whose motion mimics that of your own head. When you turn your head, the robot...

**29/3,K/15 (Item 1 from file: 80)**  
DIALOG(R)File 80:TGG Aerospace/Def.Mkts(R)  
(c) 2004 The Gale Group. All rts. reserv.

01426256 Supplier Number: 53945369 (USE FORMAT 7 FOR FULLTEXT)  
**Saving Captain Miller. (integrated modular individual fighting system)**  
Carroll, Sean  
Journal of Electronic Defense, v21, n11, p45(5)  
Nov, 1998  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 3778

... wider field of view than the 40 [degrees] provided by the Land

Warrior equipment. New **HMD display** technologies are under investigation as well.

Other sorts of situational awareness efforts under examination include...

29/3,K/16 (Item 2 from file: 80)

DIALOG(R)File 80:TGG Aerospace/Def.Mkts(R)

(c) 2004 The Gale Group. All rts. reserv.

01090107 Supplier Number: 39768103

**RAE Farnborough uses Arcom Equipment for helicopter...**

Aircraft Engineering, v58, n6, p10

June, 1986

Language: English Record Type: Abstract

Document Type: Magazine/Journal; Trade

ABSTRACT:

...data logger supplied by Arcom Control Systems (UK). The visually-coupled system comprises a nose- **mounted video camera** and a **helmet - mounted display** that gives the pilot a real-time picture of what he would be able to...

...100 deg field of regard each side of dead ahead, 30 deg in elevation and **vertically** downwards. The pilot's helmet features a miniature CRT **display** that can be viewed directly or by using reflective optics. In addition to the video...

29/3,K/17 (Item 3 from file: 80)

DIALOG(R)File 80:TGG Aerospace/Def.Mkts(R)

(c) 2004 The Gale Group. All rts. reserv.

01090009 Supplier Number: 39767549

**News, Research, Development: Helicopter all-weather flying trials.**

Defence Materiel, v11, n3, p94

June, 1986

Language: English Record Type: Abstract

Document Type: Magazine/Journal; Trade

ABSTRACT:

...Establishment. The system comprises a sensor platform at the nose of the aircraft carrying the **camera**, and a **helmet mounted display** giving the pilot a real time picture of what he would be able to see...

...regard is some 100 deg each side of dead ahead, 30 deg in elevation and **vertically** downwards. A miniature CRT **display** is mounted on the pilot's helmet, and can be viewed direct or using reflective...

29/3,K/18 (Item 1 from file: 88)

DIALOG(R)File 88:Gale Group Business A.R.T.S.

(c) 2004 The Gale Group. All rts. reserv.

05347441 SUPPLIER NUMBER: 60036027

**Effects of Head-Slaved and Peripheral Displays on Lane-Keeping Performance and Spatial Orientation.**

Kappe, Bart; Erp, Jan van; Korteling, J.E. (Hans)

Human Factors, 41, 3, 453

Sept, 1999

ISSN: 0018-7208      LANGUAGE: English      RECORD TYPE: Fulltext  
WORD COUNT: 8273      LINE COUNT: 00668

... commonly utilized in virtual reality setups, which present head-slaved images on a head-mounted **display** .

Several authors have investigated vehicle control using a **head -slaved camera** in combination with a **head - mounted display** (McGovern, 1988; Pepper, 1986; Spain, 1988, 1991; Umeda, Martin, & Merrit, 1991). The results show that...

**29/3,K/19      (Item 2 from file: 88)**

DIALOG(R)File 88:Gale Group Business A.R.T.S.  
(c) 2004 The Gale Group. All rts. reserv.

04887306      SUPPLIER NUMBER: 21067423  
**Comparing measures of monocular distance perception: verbal and reaching errors are not correlated.**

Pagano, Christopher C.; Bingham, Geoffrey P.  
Journal of Experimental Psychology: Human Perception and Performance, v24, n4, p1037(15)  
August, 1998  
ISSN: 0096-1523      LANGUAGE: English      RECORD TYPE: Abstract

....AUTHOR ABSTRACT: distance via optic flow generated by head movement toward a target was investigated with a **helmet - mounted video camera** and **display** . Ability to perceive target distance was assessed with 2 response measures: verbal reports and reaches...

**29/3,K/20      (Item 1 from file: 141)**

DIALOG(R)File 141:Readers Guide  
(c) 2004 The HW Wilson Co. All rts. reserv.

03556676      H.W. WILSON RECORD NUMBER: BRGA97056676      (USE FORMAT 7 FOR FULLTEXT)

**"X-ray vision" aids medical diagnoses.**

AUGMENTED TITLE: use of augmented reality technology for breast biopsy; research by Henry Fuchs  
USA Today (Periodical) (USA Today (Periodical)) v. 125 (June '97) p. 1+  
WORD COUNT: 609

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

... medicine."

Added material

Etta Pisano of the University of North Carolina's Lineberger Comprehensive Cancer **Center** wears **head - mounted display** with two video **cameras** to scan patient with "augmented reality" system that utilizes ultrasound to produce diagnostic images.

...

**29/3,K/21      (Item 2 from file: 141)**

DIALOG(R)File 141:Readers Guide  
(c) 2004 The HW Wilson Co. All rts. reserv.

03009728      H.W. WILSON RECORD NUMBER: BRGA95009728      (USE FORMAT 7 FOR FULLTEXT)



**A cure for surgical chaos.**

Brittan, David.

Technology Review (Technol Rev) v. 98 (Jan. '95) p. 10-12

WORD COUNT: 1852

(USE FORMAT 7 FOR FULLTEXT)

**TEXT:**

... system, Ian Hunter controls the "slave" unit above the mannequin. The projection screen in the **center displays** 3D images--either a computerized "virtual environment" of an eye, as shown, or images from...

**29/3,K/22 (Item 3 from file: 141)**

DIALOG(R)File 141:Readers Guide

(c) 2004 The HW Wilson Co. All rts. reserv.

01532816 H.W. WILSON RECORD NUMBER: BRGA89032816

**NASA, McDonnell Douglas test helmet-mounted landing system.**

Phillips, Edward H.

Aviation Week & Space Technology (Aviat Week Space Technol) v. 130 (June 19 '89) p. 126-7

...ABSTRACT: a field of view ahead of the aircraft. Information from the cameras is processed and **displayed** on binocular optics installed in an **Integrated Helmet and Display Sighting System (IHADSS)** developed by Honeywell. The **system** could have applications for current military aircraft in which crew eye protection during combat is...

**29/3,K/23 (Item 1 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2004 The Gale Group. All rts. reserv.

07955595 SUPPLIER NUMBER: 17158528 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Worth its stripes. (Eurocopter Tiger) (includes sidebars)**

Moxon, Julian

Flight International, v147, n4475, p102(5)

June 7, 1995

ISSN: 0015-3710

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 4375 LINE COUNT: 00347

... use the wide FOV gunner's sight for night flying. Sextant Avionique-developed helmet-mounted **displays (HMD)** provide air-to-air sighting for both crew members in the French HAC (German and...

**29/3,K/24 (Item 1 from file: 264)**

DIALOG(R)File 264:DIALOG Defense Newsletters

(c) 2004 The Dialog Corp. All rts. reserv.

00020681

**ARMY STUDY RECOMMENDS LAND WARRIOR DISPLAY REDESIGN By Greg Caires**

DEFENSE DAILY

November 18, 1996 VOL: 193 ISSUE: 33 DOCUMENT TYPE: NEWSLETTER

PUBLISHER: PHILLIPS BUSINESS INFORMATION

LANGUAGE: ENGLISH

WORD COUNT: 335

RECORD TYPE: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

TEXT:

...and what it can do."

Land Warrior is an advanced "battle dress" system that integrates **helmet - mounted displays**, laser rangefinders, television **cameras**, a computer database with advanced communications and protective gear. It is being developed by the...

**29/3,K/25 (Item 1 from file: 484)**

DIALOG(R)File 484:Periodical Abs Plustext

(c) 2004 ProQuest. All rts. reserv.

03322061 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Low vision enhancement system (LVES)**

Ballinger, Rex A; Lalle, Peter A; Maino, Joseph H; Stelmack, Joan; et al  
Journal of Rehabilitation Research & Development (PJHB), v34, p269-270, p.2  
May 1997

ISSN: 0748-7711 JOURNAL CODE: PJHB

DOCUMENT TYPE: Feature

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 435

TEXT:

... dispensed manual Beta-1 or autofocus Beta-2 LVES units. The device consists of a **head - mounted** series of video **cameras**, video **displays**, and integrated optical elements. The headset is connected to and powered by a cable connected...

**29/3,K/26 (Item 2 from file: 484)**

DIALOG(R)File 484:Periodical Abs Plustext

(c) 2004 ProQuest. All rts. reserv.

02688390 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Filter center**

Nordwall, Bruce D

Aviation Week & Space Technology (AWS), v144 n4, p51

Jan 22, 1996

ISSN: 0005-2175 JOURNAL CODE: AWS

DOCUMENT TYPE: News

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 504

LENGTH: Medium (10-30 col inches)

TEXT:

... offering great weight savings, but they have been prohibitively expensive to manufacture. Night vision systems, **helmet - mounted displays** and digital **cameras** are types of equipment that would be enhanced. The university expects to cut production costs...

**29/3,K/27 (Item 3 from file: 484)**

DIALOG(R)File 484:Periodical Abs Plustext

(c) 2004 ProQuest. All rts. reserv.

02289687 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**The VA-cyberware lower limb prosthetics-orthotics optical laser digitizer**

Houston, Vern L; Mason, Carl P; Beattie, Aaron C; LaBlanc, Kenneth P; et al  
Journal of Rehabilitation Research & Development (PJHB), v32 n1, p55-73, p.  
19

Feb 1995

ISSN: 0748-7711 JOURNAL CODE: PJHB  
DOCUMENT TYPE: Feature  
LANGUAGE: English RECORD TYPE: Fulltext; Abstract  
WORD COUNT: 7169 LENGTH: Long (31+ col inches)

TEXT:

... design, the optical digitizer is functionally equivalent to a digitizer with four lasers and eight **cameras** .

The **output** signals from the upper and lower cameras in each scan head are averaged when both...

**29/3,K/28 (Item 1 from file: 624)**  
DIALOG(R)File 624:McGraw-Hill Publications  
(c) 2004 McGraw-Hill Co. Inc. All rts. reserv.

01016967

**LOOK-THROUGH IMAGERY**

Aviation Week & Space Technology June 7, 1999; Pg 15; Vol. 150, No. 23

Journal Code: AW ISSN: 0005-2175

Section Heading: INDUSTRY OUTLOOK

Word Count: 158 \*Full text available in Formats 5, 7 and 9\*

BYLINE:

EDITED BY PAUL PROCTOR

TEXT:

... overlay conformal infrared (IR) imagery on the outside scene as viewed through the pilot's **helmet - mounted display** . A series of IR **cameras mounted** around the aircraft would provide seamless IR coverage, according to Stan J. Kasprzyk, JSF cockpit...

**29/3,K/29 (Item 2 from file: 624)**  
DIALOG(R)File 624:McGraw-Hill Publications  
(c) 2004 McGraw-Hill Co. Inc. All rts. reserv.

0730195

**THE U.S. DEFENSE DEPT.'S ADVANCED**

Aviation Week & Space Technology January 22, 1996; Pg 51; Vol. 144, NO. 4

Journal Code: AW ISSN: 0005-2175

Section Heading: FILTER CENTER

Word Count: 130 \*Full text available in Formats 5, 7 and 9\*

BYLINE:

EDITED BY BRUCE D. NORDWALL

TEXT:

... offering great weight savings, but they have been prohibitively expensive to manufacture. Night vision systems, **helmet - mounted displays** and digital **cameras** are types of equipment that would be enhanced. The university expects to cut production costs...

**29/3,K/30 (Item 1 from file: 635)**  
DIALOG(R)File 635:Business Dateline(R)  
(c) 2004 ProQuest Info&Learning. All rts. reserv.

0514850 94-69244

**ELECTROGIG announces GIGTIME: Real-time, collaborative software/services**

**for broadcast artists**

Stumbo, Cheryl  
Business Wire (San Francisco, CA, US) sl pl  
PUBL DATE: 940725  
WORD COUNT: 584  
DATELINE: Orlando, FL, US

**TEXT:**

...with multiple real studio cameras in real time. Pan, tilt, zoom and focus from a **camera mounted** on an "Ultimatte repeat move **camera head**" is synchronized with the virtual **cameras** in the GIG environment, **displayed** within the SGI Reality Engine2.

- GIG Layering, for extended render output for advanced compositing. Images...

**29/3,K/31 (Item 1 from file: 647)**

DIALOG(R)File 647:CMP Computer Fulltext  
(c) 2004 CMP Media, LLC. All rts. reserv.

01223279 CMP ACCESSION NUMBER: EET20000918S0026

**Optics offerings take a bow at display confab**

David Lieberman

ELECTRONIC ENGINEERING TIMES, 2000, n 1132, PG32

PUBLICATION DATE: 000918

JOURNAL CODE: EET LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: NEWS

WORD COUNT: 1391

... cellular phone displays; and Type III with prism optics and a holographic lens for AR **displays**. All use LEDs for edge lighting.

Type I optics for **HMDs** feature high resolution, high contrast and large field-of-view (FOV). The Type I prototype...

**29/3,K/32 (Item 2 from file: 647)**

DIALOG(R)File 647:CMP Computer Fulltext  
(c) 2004 CMP Media, LLC. All rts. reserv.

01173032 CMP ACCESSION NUMBER: EET19980921S0076

**Mini displays look for larger showing (Focus On)**

David Lieberman

ELECTRONIC ENGINEERING TIMES, 1998, n 1026, PG123

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... MEMS displays are reflective devices used primarily in the electronic-projector market, with a coming **focus** on rear-projection monitors for both computer **output** and TVs. The emissive types are **focused** primarily on so-called personal **displays** that are brought up to the eye for viewing or worn on the head in such applications as portable fax viewers, Web readers, **camera /camcorder viewfinders, head - mounted displays**, electronic gaming goggles and wearable monitors. The LCDs,

most versatile of the bunch, are targeting...

29/3,K/33 (Item 1 from file: 810)

DIALOG(R)File 810:Business Wire

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0419487 BW0123

**ELECTROGIG 2: ELECTROGIG announces GIGTIME: real-time, collaborative software/services for broadcast artists**

July 25, 1994

Byline: Business Editors and Computer Writers

...with multiple real studio cameras in real time. Pan, tilt, zoom and focus from a **camera mounted** on an "Ultimatte repeat move **camera head** " is synchronized with the virtual cameras in the GIG environment, **displayed** within the SGI Reality Engine2.

- GIG Layering, for extended render output for advanced compositing. Images...

29/3,K/34 (Item 1 from file: 813)

DIALOG(R)File 813:PR Newswire

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NYM067

**Vista's Unique Series 8000 Visualization System For Cardiac Procedures Now Available to Hospitals Nationwide**

DATE: September 15, 1997

08:04 EDT

WORD COUNT: 1,098

... of the surgical field in real-time. The Series 8000 includes a comfortable, head-mounted **display** ( **HMD** ) that permits a clear, vivid image provided by a miniature camera inserted into the patient...

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